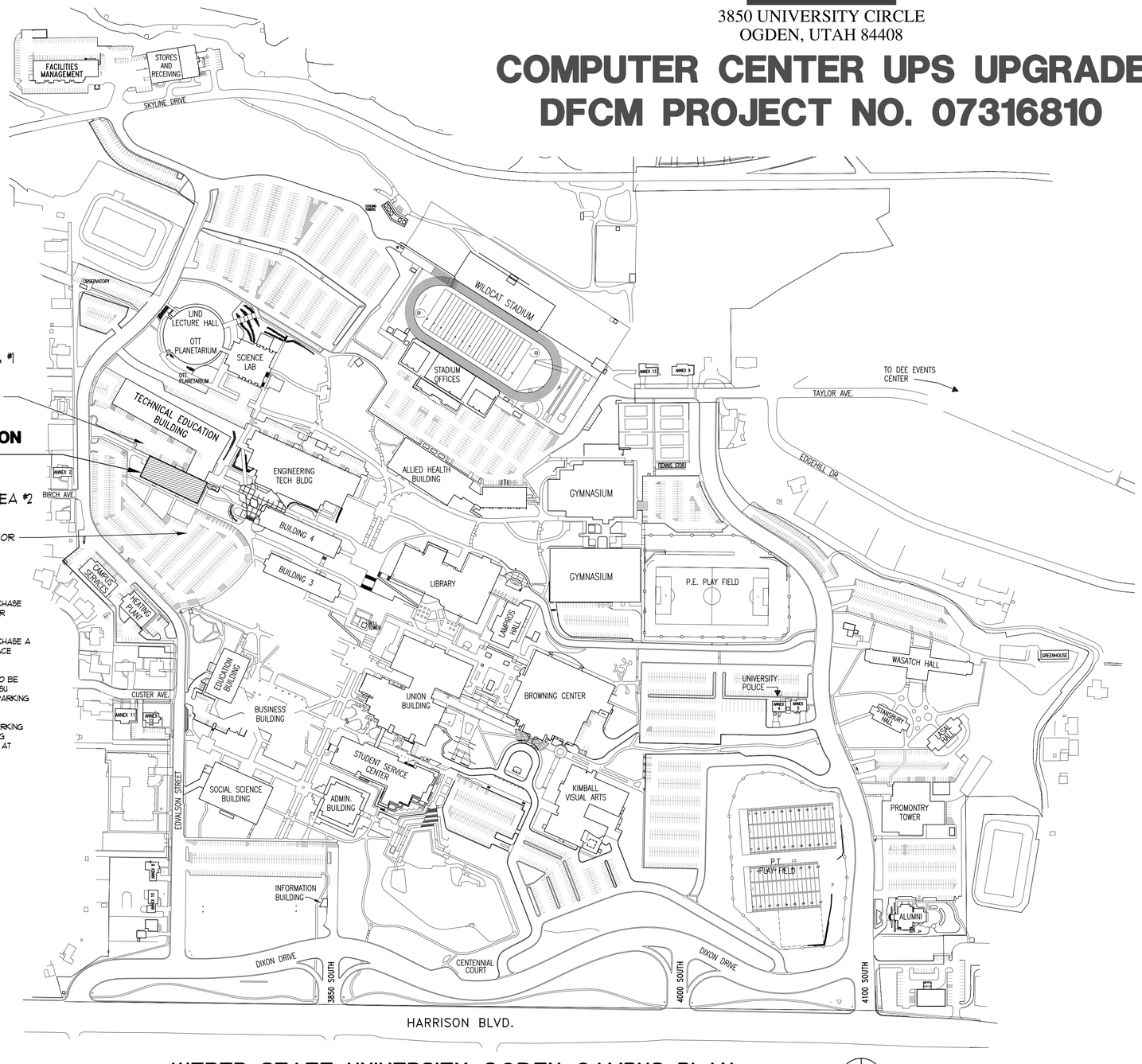
WEBER STATE UNIVERSITY

3850 UNIVERSITY CIRCLE
OGDEN, UTAH 84408

COMPUTER CENTER UPS UPGRADE
DFCM PROJECT NO. 07316810



PROPOSED STAGING AREA #1
FOR COMPUTER CENTER ACCESS
MAXIMUM OF 4 PARKING SPACES
WILL BE AVAILBLE TO CONTRACTOR

PROJECT LOCATION TECHNICAL EDUCATION BUILDING

PROPOSED STAGING AREA #2
FOR MECHANICAL ROOM ACCESS
MAXIMUM OF 4 PARKING SPACES
WILL BE AVAILBLE TO CONTRACTOR

PARKING NOTES:

1. CONTRACTOR WILL BE REQUIRED TO PURCHASE PARKING PERMITS FOR EACH CONTRACTOR VEHICLE PARKED ON CAMPUS.
2. CONTRACTOR WILL BE REQUIRED TO PURCHASE A PARKING PERMIT FOR EACH PARKING SPACE OCCUPIED BY STAGING AREAS.
3. EXACT LOCATION OF STAGING AREAS IS TO BE DETERMINED IN COOPERATION WITH THE WSU FACILITIES PROJECT MANAGER AND WSU PARKING SERVICES.
4. ADDITIONAL INFORMATION REGARDING PARKING PERMITS IS AVAILABLE FROM WSU PARKING SERVICES, 801-626-6533, OR ON THE WEB AT http://departments.weber.edu/parking/.

A1 **WEBER STATE UNIVERSITY OGDEN CAMPUS PLAN**
SCALE: 1" = 200'-0"

0 50' 100' 200'

NORTH

State of Utah-Department of Administrative Services

DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

4110 State Office Building / Salt Lake City, Utah 84114 / 538-3018

CODE ANALYSIS

APPLICABLE CODES

	Year		Year
International Building Code	2006	National Electrical Code	2005
International Mechanical Code	N.A.	Uniform Code for	
International Plumbing Code	N.A.	Building Conservation	N.A.
International Fire Code	2006	ADA Accessibility	
International Energy Conservation Code	N.A.	Guildelines	N.A.

A. Occupancy and Group: B
Change in Use: Yes ____ No X Mixed Occupancy: Yes ____ No X
Special Use and Occupancy (e.g. High Rise, Covered Mall): N.A.

B. Seismic Design Category: N.A. Design Wind Speed: N.A. mph

C. Type of Construction (circle one):
I A | I B | II A | (II B) | III A | III B | IV HT | V A | V B

D. Fire Resistance Rating Requirements for the Exterior Walls based on the fire separation distance (in hours):
North: N.A. South: N.A. East: N.A. West: N.A.

E. Mixed Occupancies: N.A. Nonseparated Uses: N.A.

F: Sprinklers:
Required: NO Provided: YES Type of Sprinkler System: WET - EXISTING

G: Number of Stories: N.A. Building Height: N.A.

H: Actual Area per Floor (square feet): N.A.

I: Tabular Area: N.A.

J: Area Modifications:

a) $A_a = A_t + \left[\frac{A_1 I_f}{100}\right] + \left[\frac{A_1 I_s}{100}\right]$ $\qquad I_f = 100\left[\frac{F}{P} - 0.25\right]\frac{W}{30}$

b) Sum of the Ratio Calculations for Mixed Occupancies:
$\frac{\text{Actual Area}}{\text{Allowable Area}} \leq 1$

c) Total Allowable Area for:
1) One Story: ____
2) Two Story: $A_a(2)$____
3) Three Story: $A_a(3)$____

d) Unlimited Area Building: Yes ____ No ____ Code Section: ____

K. Fire Resistance Rating Requirements for Building Elements (hours).

Element	Hours	Assembly Listing	Element	Hours	Assembly Listing
Exterior Bearing Walls	N.A.		Floors - Ceiling Floors	N.A.	
Interior Bearing Walls	N.A.		Roofs - Ceiling Roofs	N.A.	
Exterior Non-Bearing Walls	N.A.		Exterior Doors and Windows	N.A.	
Structural Frame	N.A.		Shaft Enclosures	N.A.	
Partitions - Permanent	N.A.		Fire Walls	N.A.	
Fire Barriers	N.A.		Fire Partitions	N.A.	
			Smoke Partitions		

L. Design Occupant Load: N.A.
Exit Width Required: ____ Exit Width Provided: ____

M. Minimum Number of Required Plumbing Facilities:
a) Water Closets - Required (m) 0 (f) 0 Provided (m) 0 (f) 0
b) Lavatories - Required (m) 0 (f) 0 Provided (m) 0 (f) 0
c) Bath Tubs or Showers: 0
d) Drinking Fountains: 0 Service Sinks: 0

FOOTNOTES:
1) In case of conflict with the U.S. Department of Justice Federal Registers Parts I - V - ADA Guidelines and specific reference to the International Building Code Accessibility Chapters, the more restrictive requirement shall govern.
2) Additional Code Information shall be provided at the discretion of the Building Official for Complex Buildings. Including, but not limited to:
a) High Rise Requirements. e) Fire Assembly Locator Sheet.
b) Atriums. f) Exterior and Interior Accessibility Route.
c) Performance Based Criteria. g) Fire Stopping, Including Tested Design Number.
d) Means or Egress Analysis.

DRAWING INDEX

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Division of Facilities Construction & Management
4110 State Office Building
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SALT LAKE CITY, UTAH 84115
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FACSIMILE: (801) 484-3538

CONSULTANTS:

PROJECT:
WEBER STATE UNIVERSITY
3850 UNIVERSITY CIRCLE
OGDEN, UTAH 84408

TECHNICAL EDUCATION BUILDING

COMPUTER CENTER UPS UPGRADE

REVISIONS:

MARK	DATE	DESCRIPTION

ISSUE TYPE: CONSTRUCTION DOCUMENTS
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DFCM PROJECT NO: 07316810
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CAD DWG FILE: G-001.dwg
DRAWN BY: W.B.G.
CHECKED BY: R.G.K.

SHEET TITLE:
LOCATION PLAN, CODE ANALYSIS, AND DRAWING INDEX

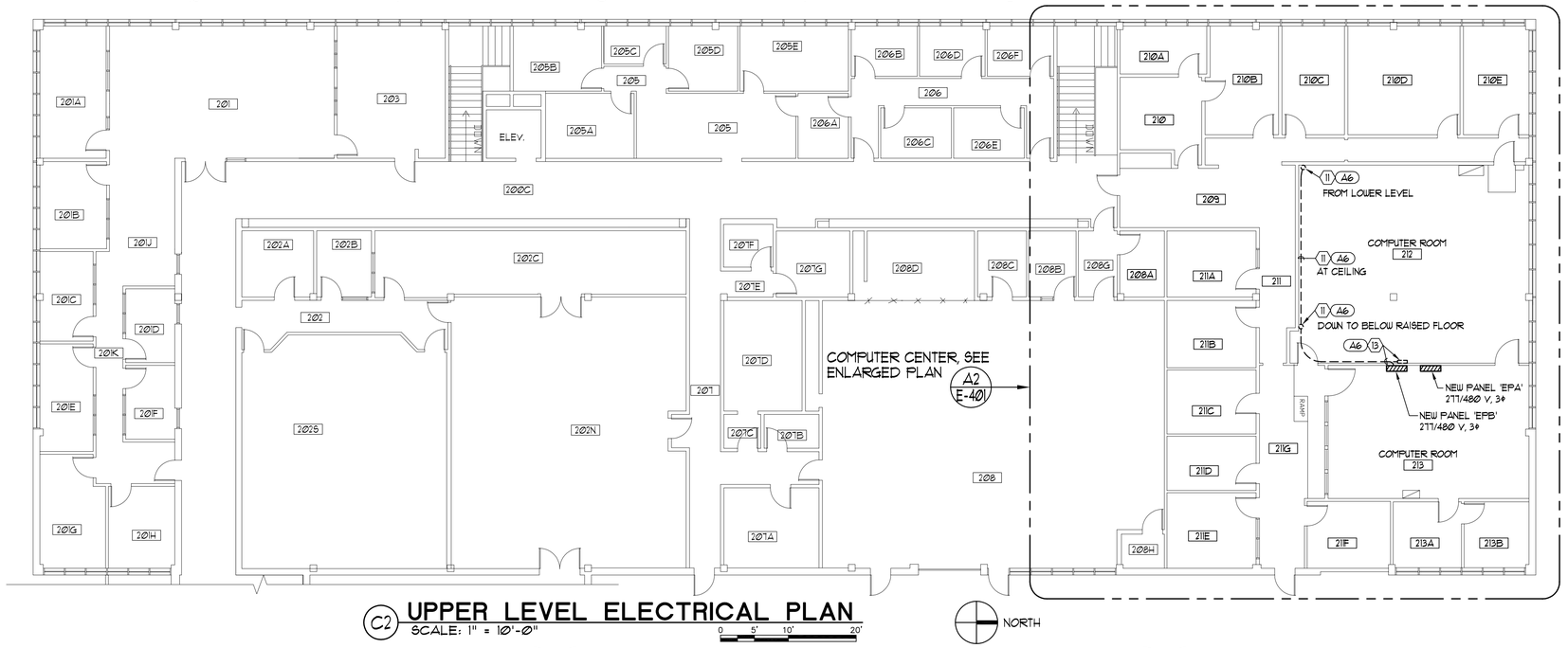
SHEET NUMBER:
G-001

GENERAL NOTES:

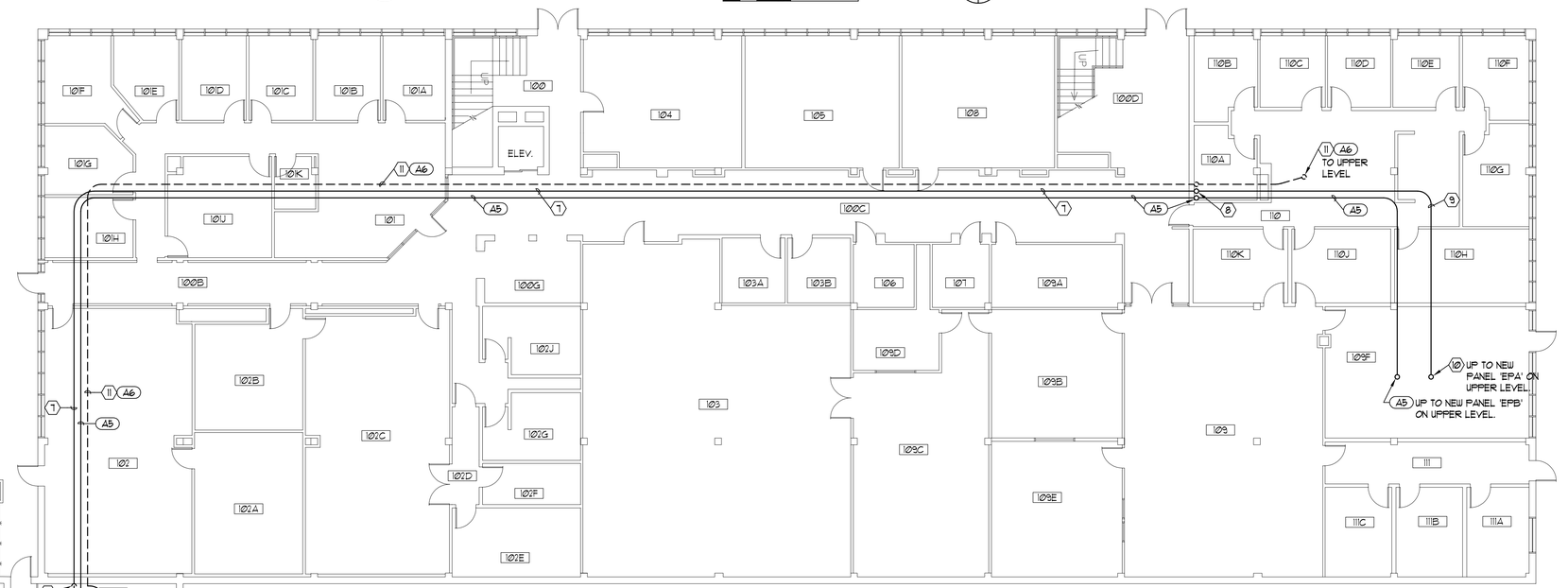
1. LOCATIONS OF EXISTING ELECTRICAL EQUIPMENT, RECEPTACLES, OUTLETS, BRANCH CIRCUIT WIRING, ETC., ARE BASED ON EXISTING BUILDING ELECTRICAL DRAWINGS AND FIELD OBSERVATION OF EXISTING SURFACE CONDITIONS. FIELD VERIFY EXISTING LOCATIONS AND CIRCUITING AND IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES WHICH MAY ADVERSELY AFFECT COMPLETION OF THE WORK.
2. DEMOLITION IS SHOWN FOR CONTRACTORS REFERENCE ONLY. FIELD VERIFY QUANTITIES AND LOCATIONS OF ALL EXISTING MATERIAL AND EQUIPMENT TO BE REMOVED. REMOVE ALL ABANDONED WIRING, CONDUIT, BOXES, RECEPTACLES, OUTLETS, EQUIPMENT, ETC., ASSOCIATED WITH THE WORK WHETHER SPECIFICALLY SHOWN OR NOT.
3. CONTRACTOR MAY USE EXISTING BRANCH CIRCUIT WIRING AND RACEWAYS WHERE CONVENIENT TO CONNECT TO NEW ELECTRICAL DEVICES ONLY IF THE EXISTING WIRING AND RACEWAYS ARE IN GOOD CONDITION AND MEET DIVISION 16 SPECIFICATION REQUIREMENTS FOR NEW WIRING AND RACEWAYS.
4. WHERE REMOVAL OF EXISTING ELECTRICAL EQUIPMENT INTERRUPTS EXISTING BRANCH CIRCUITS OR FEEDERS TO EXISTING EQUIPMENT TO REMAIN, PROVIDE NEW CONDUIT AND WIRING AS REQUIRED TO RECONNECT THE EXISTING EQUIPMENT.
5. ALL MATERIALS AND EQUIPMENT REMOVED SHALL REMAIN THE PROPERTY OF THE OWNER AND SHALL BE TURNED OVER TO THE OWNER FOR STORAGE OR BE DISPOSED OF BY THE CONTRACTOR AS DIRECTED BY THE OWNER.
6. TAKE ALL PRECAUTIONS NECESSARY TO AVOID DAMAGE TO THE EXISTING BUILDING. REPAIR ALL DAMAGE INCURRED BY DEMOLITION AND NEW CONSTRUCTION TO EXACTLY MATCH SURROUNDING SURFACES AND/OR CONDITIONS WITHOUT ADDITIONAL COST TO THE OWNER.

KEYED NOTES:

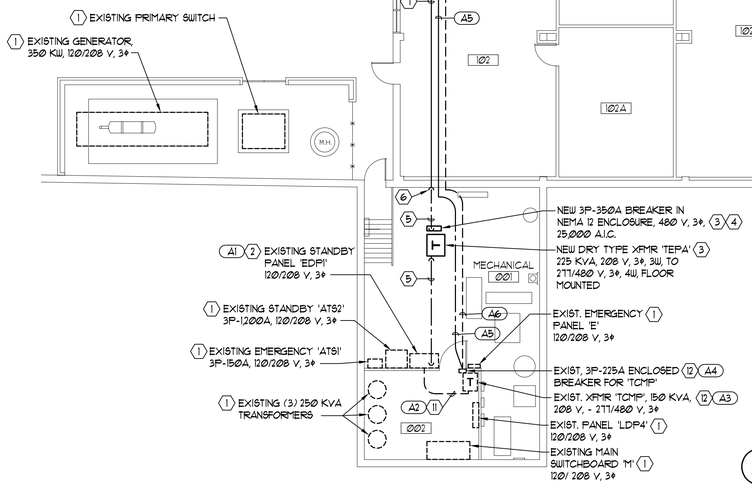
1. EXISTING ELECTRICAL EQUIPMENT TO REMAIN. SHOWN FOR REFERENCE ONLY.
2. PROVIDE NEW 3P-800A BREAKER IN EXISTING PANEL 'EDP1' TO SERVE NEW TRANSFORMER 'TEPA'. SEE NEW SINGLE LINE DIAGRAM, SHEET E-602.
3. PROVIDE NEW TRANSFORMER 'TEPA' AND ENCLOSED CIRCUIT BREAKER. SEE NEW SINGLE LINE DIAGRAM, SHEET E-602. FIELD COORDINATE EXACT LOCATION WITH ENGINEER AND OWNER PRIOR TO INSTALLATION.
4. PROVIDE FLOOR MOUNTED STAND CONSTRUCTED OF UNISTRUT P1000G, OR EQUAL, 1-5/8" x 1-5/8" x 12 GAUGE HOT DIP GALVANIZED 'C' CHANNEL TO SUPPORT NEW ENCLOSED CIRCUIT BREAKER.
5. INSTALL NEW FEEDER CONDUITS MINIMUM 15 FT ABOVE FLOOR AND SUPPORT FROM EXISTING EXPOSED CONCRETE TEE STRUCTURE IN MECHANICAL ROOM 001.
6. TURN CONDUIT DOWN FROM MECHANICAL ROOM CEILING INTO CRAWL SPACE BELOW THE LOWER LEVEL FLOOR, APPROXIMATELY 5 FT ABOVE MECHANICAL ROOM FLOOR.
7. NEW FEEDER CONDUIT THROUGH EXISTING CRAWL SPACE. FIELD COORDINATE ROUTING WITH EXISTING MECHANICAL PIPING, EQUIPMENT, DUCTWORK, ETC., IN THE CRAWL SPACE.
8. CORE-DRILL AND FIRE SEAL EXISTING LOWER LEVEL CONCRETE FLOOR FOR NEW FEEDER CONDUIT PENETRATION FROM CRAWL SPACE TO LOWER LEVEL. INSTALL NEW CONDUIT THROUGH EXISTING STORAGE ROOM TO CEILING SPACE SIMILAR TO EXISTING FEEDER CONDUITS.
9. NEW FEEDER CONDUIT THROUGH EXISTING LOWER CEILING SPACE. FIELD COORDINATE ROUTING WITH EXISTING DUCTWORK, PIPING, ETC., IN THE CEILING SPACE.
10. CORE-DRILL AND FIRE SEAL EXISTING UPPER LEVEL CONCRETE FLOOR FOR NEW FEEDER CONDUIT PENETRATION FROM LOWER LEVEL CEILING SPACE TO NEW PANEL 'EPA' ON UPPER LEVEL.
11. EXISTING UPS SYSTEMS FEEDER TO REMAIN UNDER BASE BID. REMOVE UNDER ADDITIVE ALTERNATE NO. 1.
12. EXISTING UPS SYSTEMS TRANSFORMER 'TCMP' AND SECONDARY BREAKER TO REMAIN UNDER BASE BID. REPLACE UNDER UNDER ADDITIVE ALTERNATE NO. 1.
13. INTERCEPT EXISTING UPS SYSTEMS FEEDER IN LIQUID TIGHT FLEXIBLE STEEL CONDUIT IN ACCESSIBLE RAISED FLOOR SPACE, REROUTE TO NEW PANEL 'EPB' THROUGH EXISTING CONCRETE BLOCK WALL, FIRE SEAL CONDUIT PENETRATION, AND REMOVE EXISTING SPLICE BOX UNDER THE BASE BID. REMOVE EXISTING FEEDER AND SPLICE BOX UNDER ADDITIVE ALTERNATE NO. 1.



C2 UPPER LEVEL ELECTRICAL PLAN
SCALE: 1" = 10'-0"



A1 LOWER LEVEL ELECTRICAL PLAN
SCALE: 1" = 10'-0"



ADDITIVE ALTERNATE NO. 1:

A1 PROVIDE NEW 3P-800A CIRCUIT BREAKER IN EXISTING PANEL 'EDP1' TO REPLACE EXISTING CIRCUIT BREAKER SERVING EXISTING TRANSFORMER 'TCMP'. SEE NEW SINGLE LINE DIAGRAM, SHEET E-602.

A2 REPLACE EXISTING FEEDER FROM EXISTING PANEL 'EDP1' TO EXISTING TRANSFORMER 'TCMP' WITH NEW FEEDER AS SHOWN ON NEW SINGLE LINE DIAGRAM, SHEET E-602.

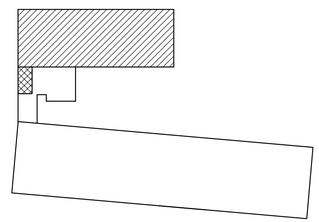
A3 REPLACE EXISTING TRANSFORMER 'TCMP' WITH NEW TRANSFORMER 'TEPB' AT THE SAME LOCATION. SEE NEW SINGLE LINE DIAGRAM, SHEET E-602.

A4 REPLACE EXISTING ENCLOSED CIRCUIT BREAKER WITH NEW CIRCUIT BREAKER AT THE SAME LOCATION. SEE NEW SINGLE LINE DIAGRAM, SHEET E-602.

ADDITIVE ALTERNATE NO. 1:

A5 PROVIDE NEW FEEDER FOR NEW PANEL 'EPB' AS SHOWN. ROUTE NEW CONDUIT THROUGH MECHANICAL ROOM, CRAWL SPACE, LOWER LEVEL CEILING SPACE, AND UP TO NEW PANEL 'EPB' ON UPPER LEVEL TO MATCH ROUTING OF NEW FEEDER TO NEW PANEL 'EPA'.

A6 REMOVE EXISTING FEEDER FOR EXISTING UPS SYSTEMS COMPLETE. SEE EXISTING SINGLE LINE DIAGRAM, SHEET E-601. SEAL ALL HOLES THROUGH CONCRETE WALLS AND/OR FLOOR WITH NON-SHRINK GROUT AND/OR FIRE SEALANT AS REQUIRED.



KEY PLAN
NO SCALE

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LOWER AND UPPER LEVELS ELECTRICAL PLANS

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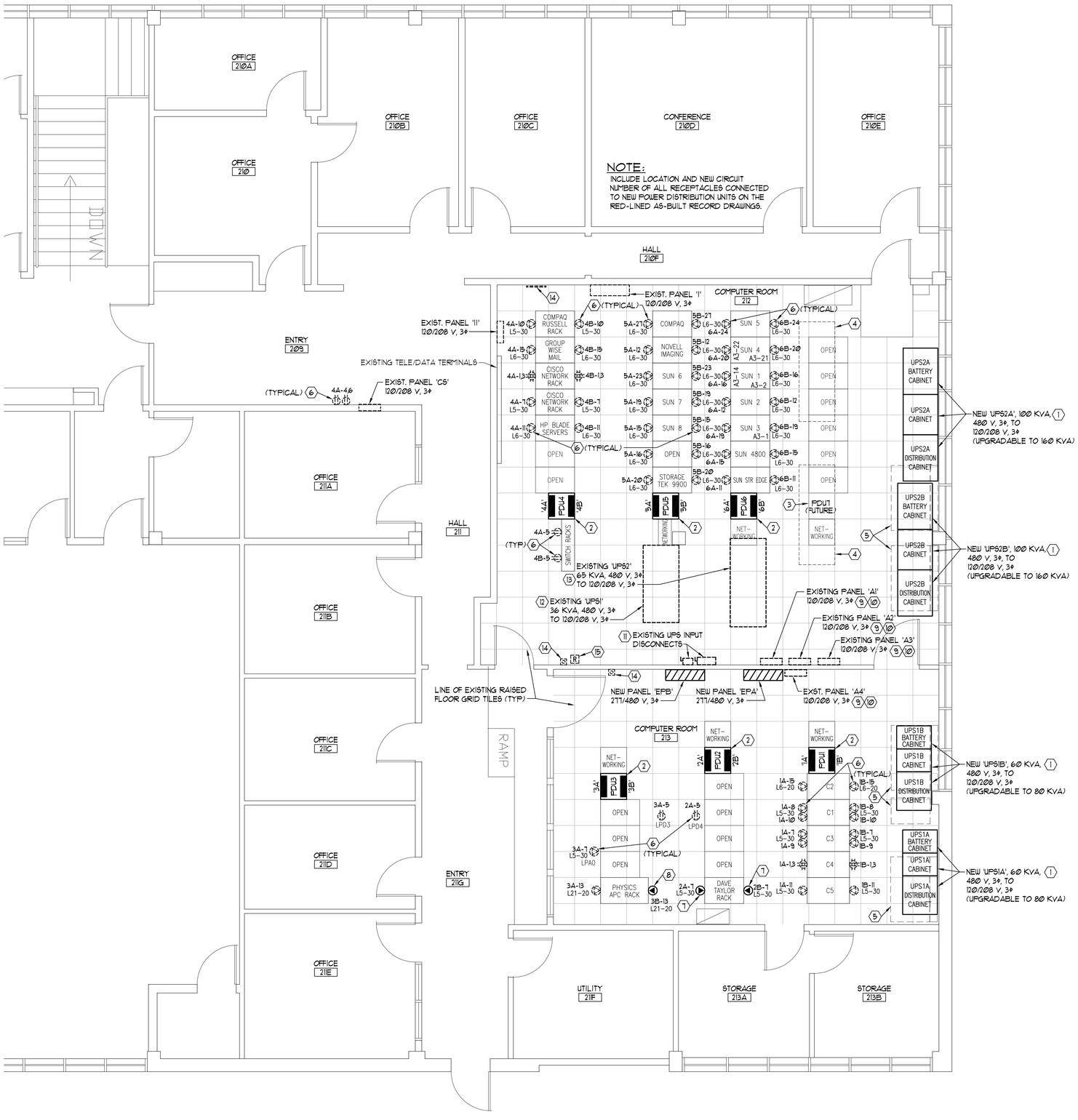
E-101



A2 ENLARGED COMPUTER CENTER ELECTRICAL PLAN

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

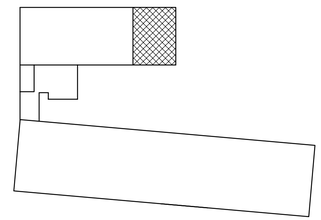
NORTH

GENERAL NOTES:

1. LOCATIONS OF EXISTING ELECTRICAL EQUIPMENT, RECEPTACLES, OUTLETS, BRANCH CIRCUIT WIRING, ETC., ARE BASED ON EXISTING BUILDING ELECTRICAL DRAWINGS AND FIELD OBSERVATION OF EXISTING SURFACE CONDITIONS. FIELD VERIFY EXISTING LOCATIONS AND CIRCUITING AND IMMEDIATELY NOTIFY THE PROJECT ENGINEER OF ANY DISCREPANCIES WHICH MAY ADVERSELY AFFECT COMPLETION OF THE WORK.
2. DEMOLITION IS SHOWN FOR CONTRACTORS REFERENCE ONLY. FIELD VERIFY QUANTITIES AND LOCATIONS OF ALL EXISTING MATERIAL AND EQUIPMENT TO BE REMOVED. REMOVE ALL ABANDONED WIRING, CONDUIT, BOXES, OUTLETS, FIXTURES, EQUIPMENT, ETC., WHETHER SPECIFICALLY SHOWN OR NOT.
3. FIELD COORDINATE EXACT LOCATION OF ALL NEW RECEPTACLES AND OUTLETS WITH ENGINEER AND/OR OWNER PRIOR TO ROUGHING IN OUTLET BOXES.
4. PROVIDE INSULATED GREEN EQUIPMENT GROUND WIRE IN ALL RACEWAYS WHETHER SPECIFICALLY INDICATED OR NOT.
5. PROVIDE A SEPARATE NEUTRAL FOR EACH NEW RECEPTACLE BRANCH CIRCUIT WHETHER SPECIFICALLY INDICATED OR NOT.
6. TAKE ALL PRECAUTIONS NECESSARY TO AVOID DAMAGE TO THE EXISTING BUILDING. REPAIR ALL DAMAGE INCURRED BY DEMOLITION AND NEW CONSTRUCTION TO EXACTLY MATCH SURROUNDING SURFACES AND/OR CONDITIONS WITHOUT ADDITIONAL COST TO THE OWNER.
7. IDENTIFY CIRCUIT NUMBER OF EACH EXISTING AND NEW RECEPTACLE CONNECTED TO NEW PDU PANELS WITH MINIMUM 15 POINT KROY LABELS, OR EQUAL METHOD ACCEPTABLE TO THE PROJECT ENGINEER AND OWNER.
8. FIELD VERIFY COMPUTER EQUIPMENT NOMENCLATURE WITH OWNER FOR USE WITH NEW TYPEWRITTEN PANEL CIRCUIT DIRECTORIES.

KEYED NOTES:

1. NEW UPS SYSTEM FURNISHED BY OWNER, TO BE INSTALLED AND WIRED COMPLETE BY CONTRACTOR.
2. NEW POWER DISTRIBUTION UNITS WITH PANELBOARDS AND CIRCUIT BREAKERS FURNISHED BY OWNER, TO BE INSTALLED AND WIRED COMPLETE BY CONTRACTOR.
3. FUTURE POWER DISTRIBUTION UNIT IS NOT IN CONTRACT.
4. EXISTING COMPUTER ROOM AIR CONDITIONING UNITS TO REMAIN.
5. EXISTING WORK STATIONS AND EQUIPMENT TO BE RELOCATED BY OWNER TO ALLOW INSTALLATION OF NEW UPS SYSTEMS. CONTRACTOR TO RELOCATE EXISTING RECEPTACLES TO NEW LOCATION AND RECONNECT EXISTING CIRCUITS TO EXISTING "A" PANELS AS REQUIRED.
6. EXISTING RECEPTACLE IN ACCESSIBLE RAISED FLOOR SPACE TO REMAIN. INTERCEPT EXISTING BRANCH CIRCUIT FROM EXISTING UPS "A" PANELS AND CONNECT TO NEW POWER DISTRIBUTION UNIT PANELBOARD AS INDICATED. LEAVE SUFFICIENT SLACK. LIQUID-TIGHT FLEXIBLE STEEL CONDUIT TO ALLOW 6 FEET MOVEMENT OF THE RECEPTACLE.
7. NEW L5-30 RECEPTACLE IN PLENUM RATED OUTLET BOX WITH RAISED INDUSTRIAL COVER IN RAISED FLOOR SPACE. CONNECT TO 1P-30A BREAKER IN NEW PDU PANEL INDICATED WITH 2 #10, 1 #10 GND, IN 3/4" LIQUID-TIGHT FLEXIBLE STEEL CONDUIT.
8. NEW L21-20 RECEPTACLE IN PLENUM RATED OUTLET BOX WITH RAISED INDUSTRIAL COVER IN RAISED FLOOR SPACE. CONNECT TO 3P-20A BREAKER IN NEW PDU PANEL INDICATED WITH 4 #12, 1 #12 GND, IN 3/4" LIQUID-TIGHT FLEXIBLE STEEL CONDUIT.
9. ALL EXISTING BRANCH CIRCUITS FROM EXISTING UPS "A" PANELS ARE TO BE RECONNECTED TO NEW PDU PANELS. ALL EXISTING RECEPTACLES AND CIRCUITS ARE NOT SHOWN ON THE POWER PLAN. CONTRACTOR TO INTERCEPT ALL EXISTING BRANCH CIRCUIT CONDUITS IN RAISED FLOOR SPACE AND CONNECT TO THE NEW PDU PANEL NEAREST THE EQUIPMENT SERVED. APPROXIMATE QUANTITY OF CONDUITS FROM EACH EXISTING PANEL ARE AS FOLLOWS:
   EXISTING PANEL 'A1': 13 EACH 3/4" CONDUIT.
   EXISTING PANEL 'A2': 13 EACH 3/4" CONDUIT, 4 EACH 1/2" CONDUIT.
   EXISTING PANEL 'A3': 20 EACH 3/4" CONDUIT, 1 EACH 1/2" CONDUIT.
   EXISTING PANEL 'A4': 8 EACH 3/4" CONDUIT, 1 EACH 3/4" EMT CONDUIT.
   (EMT CONDUIT MAY BE REPLACED WITH OR EXTENDED IN LIQUID-TIGHT FLEXIBLE STEEL CONDUIT AS REQUIRED.)
10. REMOVE EXISTING UPS "A" PANELS AFTER ALL EXISTING BRANCH CIRCUITS HAVE BEEN RECONNECTED TO NEW PDU PANELS. REMOVE ALL ABANDONED WIRING, CONDUIT, SUPPORTS, ETC. REPAIR AND PAINT EXISTING WALLS AS REQUIRED TO MATCH SURROUNDING SURFACES.
11. REMOVE EXISTING FUSED SAFETY SWITCHES INCLUDING ALL ABANDONED WIRING, CONDUIT, SUPPORTS, ETC. REPAIR AND PAINT EXISTING WALLS AS REQUIRED TO MATCH SURROUNDING SURFACES.
12. REMOVE EXISTING 36 KVA 'UPS1' INCLUDING ALL ABANDONED WIRING, CONDUIT, SUPPORTS, ETC. MOVE THE UPS TO STORAGE SITE ON WEBER STATE UNIVERSITY OGDEN CAMPUS AS DIRECTED BY OWNER.
13. REMOVE EXISTING 65 KVA 'UPS2' INCLUDING ALL ABANDONED WIRING, CONDUIT, SUPPORTS, ETC. MOVE THE UPS TO STORAGE SITE ON WEBER STATE UNIVERSITY DAVIS CAMPUS AS DIRECTED BY OWNER. WSU DAVIS CAMPUS IS LOCATED AT 2750 NORTH UNIVERSITY PARK BOULEVARD, LAYTON, UTAH.
14. EXISTING COMPUTER ROOM GROUND BUS TO REMAIN. PROVIDE NEW GROUND CONDUCTOR FROM EXISTING GROUND BUS TO EACH NEW UPS SYSTEM AS SHOWN ON NEW PARTIAL SINGLE LINE DIAGRAM, SHEET E-602.
15. EXISTING "EMERGENCY POWER OFF" (EPO) PUSHBUTTON TO REMAIN.
16. EXISTING EPO RELAYS LOCATED IN ACCESSIBLE RAISED FLOOR SPACE. REMOVE CONNECTIONS TO EXISTING UPS SYSTEMS AND PROVIDE NEW CONNECTIONS TO NEW UPS SYSTEMS AS SHOWN ON EPO CONTROL DIAGRAM, SHEET E-603.



KEY PLAN
NO SCALE

N

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Division of Facilities Construction & Management
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TECHNICAL EDUCATION BUILDING

COMPUTER CENTER UPS UPGRADE

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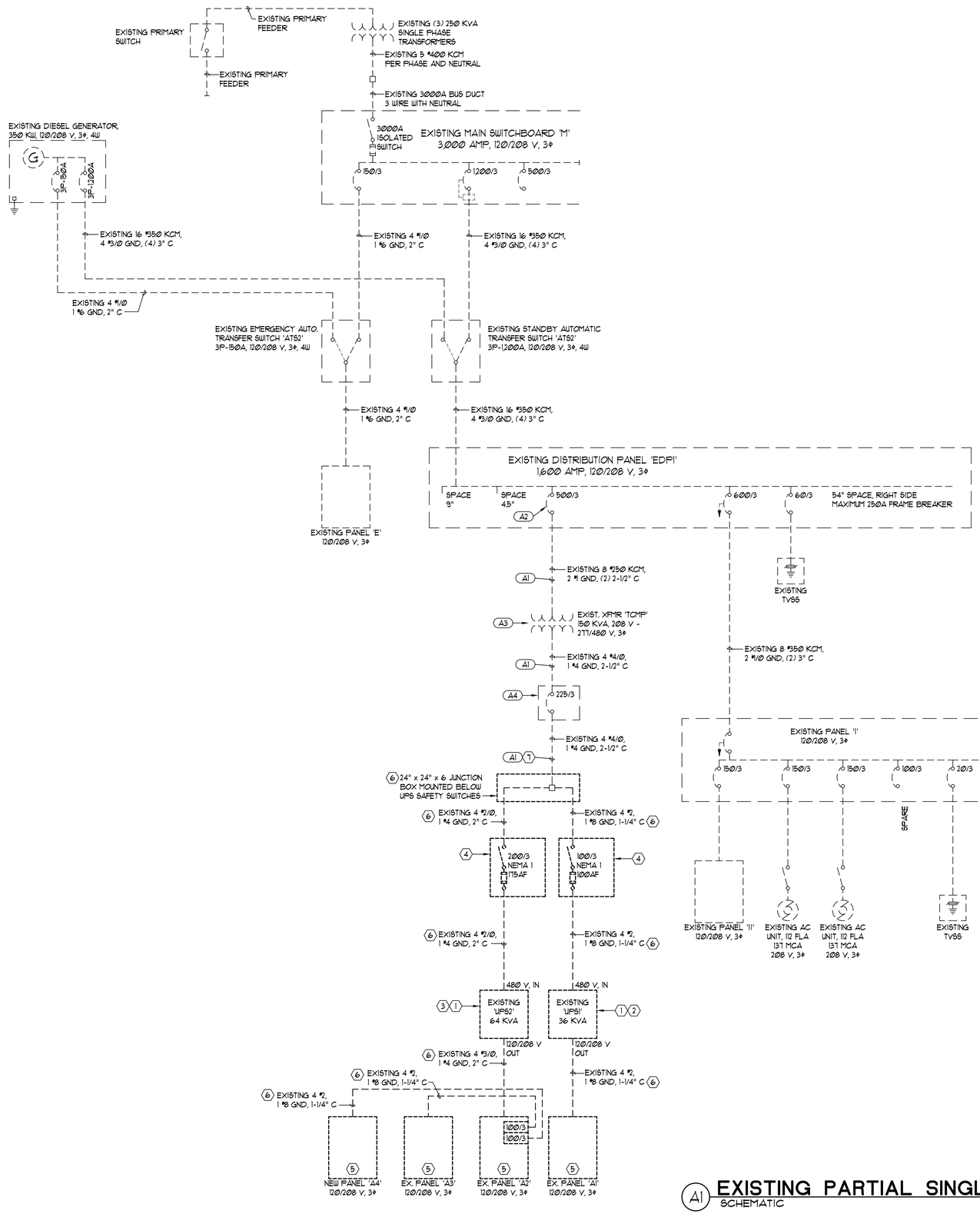

A1 EXISTING PARTIAL SINGLE LINE DIAGRAM
SCHEMATIC

GENERAL NOTES:

1. EXISTING SINGLE LINE DIAGRAM IS BASED ON EXISTING BUILDING ELECTRICAL DRAWINGS AND FIELD OBSERVATION OF EXISTING SURFACE CONDITIONS. FIELD VERIFY EXISTING ELECTRIBUTION SYSTEM AND IMMEDIATELY NOTIFY THE PROJECT ENGINEER OF ANY DISCREPANCIES WHICH MAY ADVERSELY AFFECT COMPLETION OF THE WORK.
2. ALL EXISTING ELECTRICAL EQUIPMENT, PANELBOARDS, FEEDERS, ETC., SHOWN ON THE SINGLE LINE DIAGRAM ARE TO REMAIN UNLESS SPECIFICALLY NOTED TO BE REMOVED, REPLACED, OR RELOCATED.
3. DEMOLITION IS SHOWN FOR CONTRACTORS REFERENCE ONLY. FIELD VERIFY QUANTITIES AND LOCATIONS OF ALL EXISTING MATERIAL AND EQUIPMENT TO BE REMOVED. REMOVE ALL ABANDONED WIRING, CONDUIT, BOXES, EQUIPMENT, ETC., WHETHER SPECIFICALLY SHOWN OR NOT.
4. PROVIDE INSULATED GREEN EQUIPMENT GROUND WIRE IN ALL RACEWAYS WHETHER SPECIFICALLY INDICATED OR NOT.
5. TAKE ALL PRECAUTIONS NECESSARY TO AVOID DAMAGE TO THE EXISTING BUILDING. REPAIR ALL DAMAGE INCURRED BY DEMOLITION AND NEW CONSTRUCTION TO EXACTLY MATCH SURROUNDING SURFACES AND/OR CONDITIONS WITHOUT ADDITIONAL COST TO THE OWNER. COORDINATE REPAIRS WITH THE GENERAL CONTRACTOR.

KEYED NOTES:

1. REMOVE EXISTING UPS SYSTEMS 'UPS1' AND 'UPS2' AFTER NEW "A" UPS SYSTEMS HAVE BEEN INSTALLED AND ALL EXISTING BRANCH CIRCUITS HAVE BEEN RECONNECTED TO NEW POWER DISTRIBUTION UNIT PANELBOARDS AND ARE IN PROPER WORKING ORDER.
2. SALVAGE EXISTING 36 KVA 'UPS1' AND MOVE TO STORAGE SITE ON WEBER STATE UNIVERSITY OGDEN CAMPUS AS DIRECTED BY OWNER.
3. SALVAGE EXISTING 65 KVA 'UPS2' AND MOVE THE UPS TO STORAGE SITE ON WEBER STATE UNIVERSITY DAVIS CAMPUS AS DIRECTED BY OWNER. WSU DAVIS CAMPUS IS LOCATED AT 2750 NORTH UNIVERSITY PARK BOULEVARD, LAYTON, UTAH.
4. REMOVE EXISTING FUSED SAFETY SWITCHES INCLUDING ALL ABANDONED CONDUCTORS, CONDUIT, BOXES, ETC. PATCH AND PAINT EXISTING WALL AS REQUIRED TO MATCH SURROUNDING SURFACES.
5. REMOVE EXISTING PANELS 'A1', 'A2', 'A3' AND 'A4' COMPLETE INCLUDING ALL ABANDONED CONDUCTORS, CONDUIT, BOXES, ETC. PATCH AND PAINT EXISTING WALL AS REQUIRED TO MATCH SURROUNDING SURFACES.
6. REMOVE ALL EXISTING WIRING, CONDUIT, BOXES, ETC, ABANDONED BY REMOVAL OF EXISTING UPS SYSTEMS AND PANELBOARDS.
7. EXISTING 480 VOLT, 3 PHASE FEEDER FOR EXISTING UPS SYSTEM TO REMAIN AND BE CONNECTED TO NEW PANEL 'EPB' UNDER THE BASE BID.

ADDITIVE ALTERNATE NO. 1:

- A1 REMOVE EXISTING FEEDER FOR EXISTING UPS SYSTEMS COMPLETE. PROVIDE NEW FEEDER FOR NEW PANEL 'EPB' AS SHOWN ON NEW SINGLE LINE DIAGRAM, SHEET E-602.
- A2 REPLACE EXISTING CIRCUIT BREAKER SERVING EXISTING TRANSFORMER 'TCMP' WITH NEW CIRCUIT BREAKER AS SHOWN ON NEW SINGLE LINE DIAGRAM, SHEET E-602.
- A3 REPLACE EXISTING TRANSFORMER 'TCMP' WITH NEW TRANSFORMER 'TEPB' AS SHOWN ON NEW SINGLE LINE DIAGRAM, SHEET E-602.
- A4 REPLACE EXISTING ENCLOSED CIRCUIT BREAKER WITH NEW CIRCUIT BREAKER AS SHOWN ON NEW SINGLE LINE DIAGRAM, SHEET E-602.

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TECHNICAL EDUCATION BUILDING

COMPUTER CENTER UPS UPGRADE

REVISIONS:

MARK	DATE	DESCRIPTION

ISSUE TYPE: CONSTRUCTION DOCUMENTS
ISSUE DATE: OCTOBER 19, 2007
DFCM PROJECT NO: 07316810
CAD PROJECT NO: n.a.
CAD DWG FILE: E-601.dwg
DRAWN BY: W.B.G.
CHECKED BY: R.G.K.
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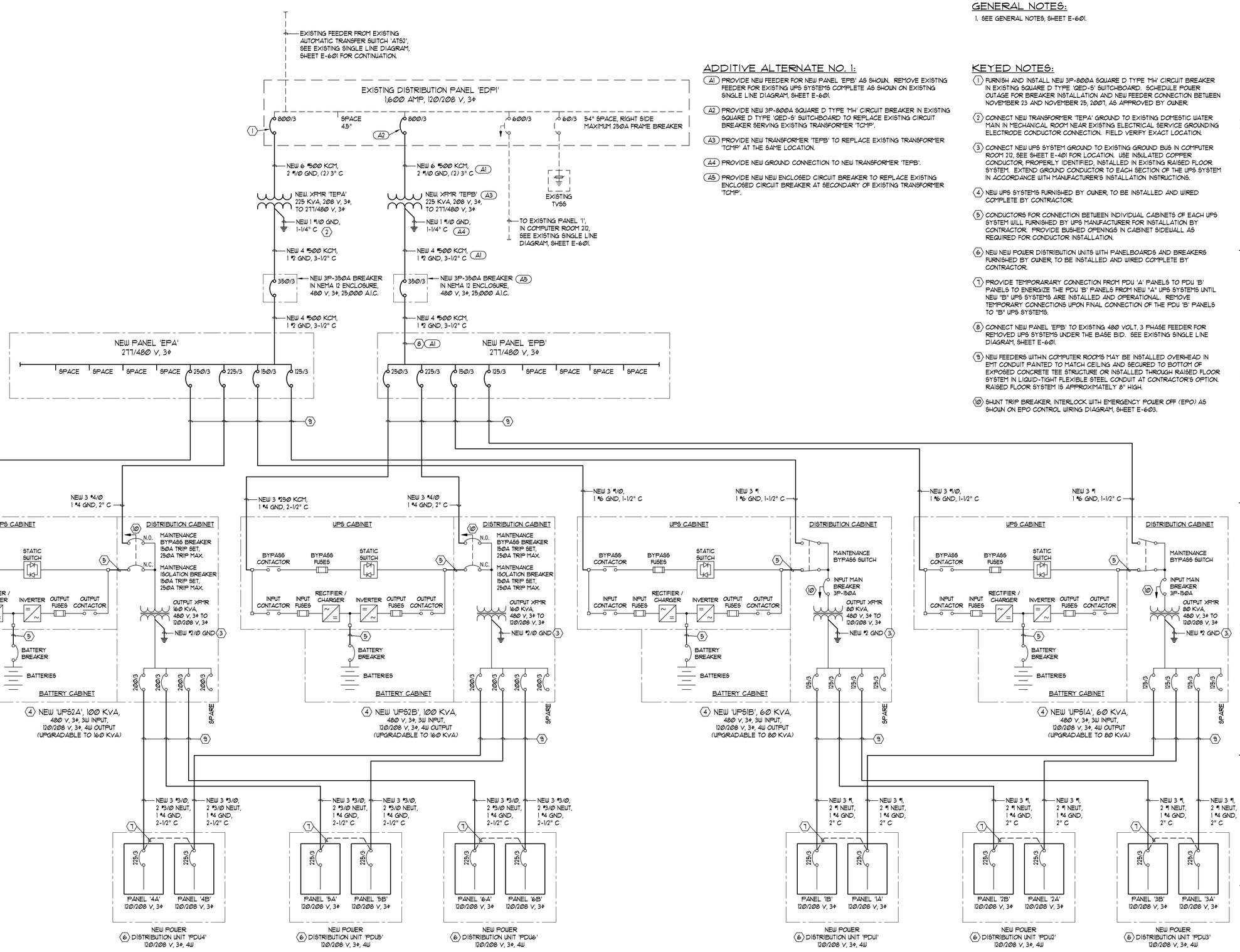
SHEET TITLE:
EXISTING PARTIAL SINGLE LINE DIAGRAM

SHEET NUMBER:
E-601



A1 NEW PARTIAL SINGLE LINE DIAGRAM
SCHEMATIC

ADDITIVE ALTERNATE NO. 1:

A1 PROVIDE NEW FEEDER FOR NEW PANEL 'EPB' AS SHOWN. REMOVE EXISTING FEEDER FOR EXISTING UPS SYSTEMS COMPLETE AS SHOWN ON EXISTING SINGLE LINE DIAGRAM, SHEET E-601.

A2 PROVIDE NEW 3P-800A SQUARE D TYPE 'MH' CIRCUIT BREAKER IN EXISTING SQUARE D TYPE 'QED-5' SWITCHBOARD TO REPLACE EXISTING CIRCUIT BREAKER SERVING EXISTING TRANSFORMER 'TCMP'.

A3 PROVIDE NEW TRANSFORMER 'TEPB' TO REPLACE EXISTING TRANSFORMER 'TCMP' AT THE SAME LOCATION.

A4 PROVIDE NEW GROUND CONNECTION TO NEW TRANSFORMER 'TEPB'.

A5 PROVIDE NEW NEW ENCLOSED CIRCUIT BREAKER TO REPLACE EXISTING ENCLOSED CIRCUIT BREAKER AT SECONDARY OF EXISTING TRANSFORMER 'TCMP'.

GENERAL NOTES:

1. SEE GENERAL NOTES, SHEET E-601.

KEYED NOTES:

1. FURNISH AND INSTALL NEW 3P-800A SQUARE D TYPE 'MH' CIRCUIT BREAKER IN EXISTING SQUARE D TYPE 'QED-5' SWITCHBOARD. SCHEDULE POWER OUTAGE FOR BREAKER INSTALLATION AND NEW FEEDER CONNECTION BETWEEN NOVEMBER 23 AND NOVEMBER 25, 2007, AS APPROVED BY OWNER.
2. CONNECT NEW TRANSFORMER 'TEPA' GROUND TO EXISTING DOMESTIC WATER MAIN IN MECHANICAL ROOM NEAR EXISTING ELECTRICAL SERVICE GROUNDING ELECTRODE CONDUCTOR CONNECTION. FIELD VERIFY EXACT LOCATION.
3. CONNECT NEW UPS SYSTEM GROUND TO EXISTING GROUND BUS IN COMPUTER ROOM 212, SEE SHEET E-401 FOR LOCATION. USE INSULATED COPPER CONDUCTOR, PROPERLY IDENTIFIED, INSTALLED IN EXISTING RAISED FLOOR SYSTEM. EXTEND GROUND CONDUCTOR TO EACH SECTION OF THE UPS SYSTEM IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
4. NEW UPS SYSTEMS FURNISHED BY OWNER, TO BE INSTALLED AND WIRED COMPLETE BY CONTRACTOR.
5. CONDUCTORS FOR CONNECTION BETWEEN INDIVIDUAL CABINETS OF EACH UPS SYSTEM WILL FURNISHED BY UPS MANUFACTURER FOR INSTALLATION BY CONTRACTOR. PROVIDE BUSHED OPENINGS IN CABINET SIDEWALL AS REQUIRED FOR CONDUCTOR INSTALLATION.
6. NEW NEW POWER DISTRIBUTION UNITS WITH PANELBOARDS AND BREAKERS FURNISHED BY OWNER, TO BE INSTALLED AND WIRED COMPLETE BY CONTRACTOR.
7. PROVIDE TEMPORARARY CONNECTION FROM PDU 'A' PANELS TO PDU 'B' PANELS TO ENERGIZE THE PDU 'B' PANELS FROM NEW "A" UPS SYSTEMS UNTIL NEW "B" UPS SYSTEMS ARE INSTALLED AND OPERATIONAL. REMOVE TEMPORARY CONNECTIONS UPON FINAL CONNECTION OF THE PDU 'B' PANELS TO "B" UPS SYSTEMS.
8. CONNECT NEW PANEL 'EPB' TO EXISTING 480 VOLT, 3 PHASE FEEDER FOR REMOVED UPS SYSTEMS UNDER THE BASE BID. SEE EXISTING SINGLE LINE DIAGRAM, SHEET E-601.
9. NEW FEEDERS WITHIN COMPUTER ROOMS MAY BE INSTALLED OVERHEAD IN EMT CONDUIT PAINTED TO MATCH CEILING AND SECURED TO BOTTOM OF EXPOSED CONCRETE TEE STRUCTURE OR INSTALLED THROUGH RAISED FLOOR SYSTEM IN LIQUID-TIGHT FLEXIBLE STEEL CONDUIT AT CONTRACTOR'S OPTION. RAISED FLOOR SYSTEM IS APPROXIMATELY 8" HIGH.
10. SHUNT TRIP BREAKER, INTERLOCK WITH EMERGENCY POWER OFF (EPO) AS SHOWN ON EPO CONTROL WIRING DIAGRAM, SHEET E-603.

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TECHNICAL EDUCATION BUILDING

COMPUTER CENTER UPS UPGRADE

REVISIONS:

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ISSUE TYPE: CONSTRUCTION DOCUMENTS
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DFCM PROJECT NO: 07316810
CAD PROJECT NO: n.a.
CAD DWG FILE: E-601.dwg
DRAWN BY: W.B.G.
CHECKED BY: R.G.K.

SHEET TITLE:
NEW PARTIAL SINGLE LINE DIAGRAM

SHEET NUMBER:
E-602

SYMBOL LIST

SYMBOL	DESCRIPTION
	NEW DUPLEX RECEPTACLE
	NEW DOUBLE DUPLEX RECEPTACLE
GFI	NEW RECEPTACLE WITH GROUND FAULT CIRCUIT INTERRUPTER
6-30	NEW SPECIAL PURPOSE RECEPTACLE INDICATING NEMA DESIGNATION
	EXISTING DUPLEX RECEPTACLE
	EXISTING DOUBLE DUPLEX RECEPTACLE
6-30	EXISTING SPECIAL PURPOSE RECEPTACLE INDICATING NEMA DESIGNATION
2A-3	RECEPTACLE INDICATING BRANCH CIRCUIT PANEL AND CIRCUIT NUMBER
	NEW JUNCTION BOX
	EXISTING JUNCTION BOX
	EXISTING "EMERGENCY POWER OFF" (EPO) PUSHBUTTON
R	EXISTING "EMERGENCY POWER OFF" (EPO) RELAY BOX
	NEW POWER PANELBOARD, 120/208 VOLT, 3 PHASE
	NEW POWER PANELBOARD, 277/480 VOLT, 3 PHASE
	EXISTING POWER PANELBOARD, 120/208 VOLT, 3 PHASE
	EXISTING POWER PANELBOARD, 277/480 VOLT, 3 PHASE
T	NEW TRANSFORMER
T	EXISTING TRANSFORMER
	EXISTING SAFETY SWITCH
2A-13,5	NEW 3 PHASE, 4 WIRE HOMERUN INDICATING PANEL AND CIRCUIT NUMBERS
	NEW BRANCH CIRCUIT CONCEALED IN WALL, FLOOR, OR CEILING
	NEW BRANCH CIRCUIT EXPOSED ON WALL OR CEILING
	EXISTING BRANCH CIRCUIT
2	KEYED NOTE SYMBOL
A2	ADDITIVE ALTERNATE KEYED NOTE SYMBOL
A2 / E-401	DETAIL NUMBER OR SECTION LETTER SHEET ON WHICH DETAIL OR SECTION IS SHOWN
209	ROOM NUMBER

PANEL '1A'
CUTLER HAMMER, BOLT-ON
3 POLE 225 AMP MAIN BREAKER

POWER DISTRIBUTION UNIT 'PDU1', SIDE 'A'
OWNER FURNISHED, CONTRACTOR INSTALLED

10,000 A.I.C. FULLY RATED
120/208 VOLT, 3 PHASE, 4 WIRE
FLOOR STANDING

CIR NO.	BRKR P	BRKR AMPS	DESCRIPTION	NO. LTS	NO. REC	CIRCUIT LOAD	PHASE LOAD - VA A	PHASE LOAD - VA B	PHASE LOAD - VA C	CIRCUIT LOAD	NO. REC	NO. LTS	DESCRIPTION	BRKR P	BRKR AMPS	CIR NO.
1	1	20	5C IN (1)			180	180						SPARE	1	20	2
3	1	20	5A IN LAN2 SW (1)			360		360					SPARE	1	20	4
5	1	20	SPARE						0				SPARE	1	20	6
7	1	30	RACK C3 PDU L5-30 (1)			1,380	2,700			1,320			2A IN C1 (1)	1	30	8
9	1	30	RACK C3 PDU L5-30 (1)			1,380		2,200		820			1A IN C3 (1)	1	30	10
11	1	30	C5 HP UNIV (2)			1,340			1,340				SPARE	1	30	12
13	1	30					0						SPARE	1	30	14
15	2	20	4A IN C2 (1)			995		995					SPARE	2	30	16
17	-	-	-			995			995				-	-	-	18
19	2	20	3A OUT (SPARE) (1)			180	180						SPARE	2	30	20
21	-	-	-			180		180					-	-	-	22
23	2	30	SPARE						0				SPARE	2	30	24
25	-	-	-				0						-	-	-	26
27	2	30	SPARE					0					SPARE	2	30	28
29	-	-	-						0				-	-	-	30
31	1		SPACE				0						SPACE	1		32
33	1		SPACE					0					SPACE	1		34
35	1		SPACE						0				SPACE	1		36
37	1		SPACE				0						SPACE	1		38
39	1		SPACE					0					SPACE	1		40
41	1		SPACE						0				SPACE	1		42
							3,060	3,735	2,335							

TOTAL CONNECTED LOAD: 9,130 VA 25 AMPS FEEDER: 3 #1, 2 #1 NEUTRAL,
CALCULATED FEEDER DEMAND, NEC 220: 11,413 VA 32 AMPS 1 #4 GND, 2" C

PANEL '1B'
CUTLER HAMMER, BOLT-ON
3 POLE 225 AMP MAIN BREAKER

POWER DISTRIBUTION UNIT 'PDU1', SIDE 'B'
OWNER FURNISHED, CONTRACTOR INSTALLED

10,000 A.I.C. FULLY RATED
120/208 VOLT, 3 PHASE, 4 WIRE
FLOOR STANDING

CIR NO.	BRKR P	BRKR AMPS	DESCRIPTION	NO. LTS	NO. REC	CIRCUIT LOAD	PHASE LOAD - VA A	PHASE LOAD - VA B	PHASE LOAD - VA C	CIRCUIT LOAD	NO. REC	NO. LTS	DESCRIPTION	BRKR P	BRKR AMPS	CIR NO.
1	1	20	5B IN OPS SK (1)			180	180						SPARE	1	20	2
3	1	20	5B IN OPS SK (1)			360		360					SPARE	1	20	4
5	1	20	SPARE						0				SPARE	1	20	6
7	1	30	RACK C3 PDU L5-30 (1)			1,380	2,700			1,320			2B IN C1 (1)	1	30	8
9	1	30	RACK C3 PDU L5-30 (1)			1,380		2,200		820			1B IN C3 (1)	1	30	10
11	1	30	C5 HP UNIV (2)			1,340			1,340				SPARE	1	30	12
13	1	30	SPARE				0						SPARE	1	30	14
15	2	20	3B IN C2 (1)			995		995					SPARE	2	30	16
17	-	-	-			995			995				-	-	-	18
19	2	20	4B OUT (SPARE) (1)			180	180						SPARE	2	30	20
21	-	-	-			180		180					-	-	-	22
23	2	30	SPARE						0				SPARE	2	30	24
25	-	-	-				0						-	-	-	26
27	2	30	SPARE					0					SPARE	2	30	28
29	-	-	-						0				-	-	-	30
31	1		SPACE				0						SPACE	1		32
33	1		SPACE					0					SPACE	1		34
35	1		SPACE						0				SPACE	1		36
37	1		SPACE				0						SPACE	1		38
39	1		SPACE					0					SPACE	1		40
41	1		SPACE						0				SPACE	1		42
							3,060	3,735	2,335							

TOTAL CONNECTED LOAD: 9,130 VA 25 AMPS FEEDER: 3 #1, 2 #1 NEUTRAL,
CALCULATED FEEDER DEMAND, NEC 220: 11,413 VA 32 AMPS 1 #4 GND, 2" C

PANEL '2A'
CUTLER HAMMER, BOLT-ON
3 POLE 225 AMP MAIN BREAKER

POWER DISTRIBUTION UNIT 'PDU2', SIDE 'A'
OWNER FURNISHED, CONTRACTOR INSTALLED

10,000 A.I.C. FULLY RATED
120/208 VOLT, 3 PHASE, 4 WIRE
FLOOR STANDING

CIR NO.	BRKR P	BRKR AMPS	DESCRIPTION	NO. LTS	NO. REC	CIRCUIT LOAD	PHASE LOAD - VA A	PHASE LOAD - VA B	PHASE LOAD - VA C	CIRCUIT LOAD	NO. REC	NO. LTS	DESCRIPTION	BRKR P	BRKR AMPS	CIR NO.
1	1	20	SPARE				0						SPARE	1	20	2
3	1	20	SPARE					0					SPARE	1	20	4
5	1	20	LP14			480			480				SPARE	1	20	6
7	1	30	DAVE TAYLOR RACK (1)(5)		1	855	855						SPARE	2	30	8
9	1	30	SPARE					0					-	-	-	10
11	1	30	SPARE						0				SPARE	2	30	12
13	1	30	SPARE				0						-	-	-	14
15	2	30	SPARE					0					SPARE	2	30	16
17	-	-	-						0				-	-	-	18
19	2	30	SPARE				0						SPARE	2	30	20
21	-	-	-					0					-	-	-	22
23	2	30	SPARE						0				SPARE	2	30	24
25	-	-	-				0						-	-	-	26
27	2	30	SPARE					0					SPARE	2	30	28
29	-	-	-						0				-	-	-	30
31	1		SPACE				0						SPACE	1		32
33	1		SPACE					0					SPACE	1		34
35	1		SPACE						0				SPACE	1		36
37	1		SPACE				0						SPACE	1		38
39	1		SPACE					0					SPACE	1		40
41	1		SPACE						0				SPACE	1		42
							855	0	480							

TOTAL CONNECTED LOAD: 1,335 VA 4 AMPS FEEDER: 3 #1, 2 #1 NEUTRAL,
CALCULATED FEEDER DEMAND, NEC 220: 1,669 VA 5 AMPS 1 #4 GND, 2" C

PANEL '2B'
CUTLER HAMMER, BOLT-ON
3 POLE 225 AMP MAIN BREAKER

POWER DISTRIBUTION UNIT 'PDU2', SIDE 'B'
OWNER FURNISHED, CONTRACTOR INSTALLED

10,000 A.I.C. FULLY RATED
120/208 VOLT, 3 PHASE, 4 WIRE
FLOOR STANDING

CIR NO.	BRKR P	BRKR AMPS	DESCRIPTION	NO. LTS	NO. REC	CIRCUIT LOAD	PHASE LOAD - VA A	PHASE LOAD - VA B	PHASE LOAD - VA C	CIRCUIT LOAD	NO. REC	NO. LTS	DESCRIPTION	BRKR P	BRKR AMPS	CIR NO.
1	1	20	SPARE				0						SPARE	1	20	2
3	1	20	SPARE					0					SPARE	1	20	4
5	1	20	SPARE						0				SPARE	1	20	6
7	1	30	DAVE TAYLOR RACK (1)(5)		1	855	855						SPARE	2	30	8
9	1	30	SPARE					0					-	-	-	10
11	1	30	SPARE						0				SPARE	2	30	12
13	1	30	SPARE				0						-	-	-	14
15	2	30	SPARE					0					SPARE	2	30	16
17	-	-	-						0				-	-	-	18
19	2	30	SPARE				0						SPARE	2	30	20
21	-	-	-					0					-	-	-	22
23	2	30	SPARE						0				SPARE	2	30	24
25	-	-	-				0						-	-	-	26
27	2	30	SPARE					0					SPARE	2	30	28
29	-	-	-						0				-	-	-	30
31	1		SPACE				0						SPACE	1		32
33	1		SPACE					0					SPACE	1		34
35	1		SPACE						0				SPACE	1		36
37	1		SPACE				0						SPACE	1		38
39	1		SPACE					0					SPACE	1		40
41	1		SPACE						0				SPACE	1		42
							855	0	0							

TOTAL CONNECTED LOAD: 855 VA 2 AMPS FEEDER: 3 #1, 2 #1 NEUTRAL,
CALCULATED FEEDER DEMAND, NEC 220: 1,069 VA 3 AMPS 1 #4 GND, 2" C

PANEL '3A'
CUTLER HAMMER, BOLT-ON
3 POLE 225 AMP MAIN BREAKER

POWER DISTRIBUTION UNIT 'PDU3', SIDE 'A'
OWNER FURNISHED, CONTRACTOR INSTALLED

10,000 A.I.C. FULLY RATED
120/208 VOLT, 3 PHASE, 4 WIRE
FLOOR STANDING

CIR NO.	BRKR P	BRKR AMPS	DESCRIPTION	NO. LTS	NO. REC	CIRCUIT LOAD	PHASE LOAD - VA A	PHASE LOAD - VA B	PHASE LOAD - VA C	CIRCUIT LOAD	NO. REC	NO. LTS	DESCRIPTION	BRKR P	BRKR AMPS	CIR NO.
1	1	20	SPARE				0						SPARE	1	20	2
3	1	20	SPARE					0					SPARE	1	20	4
5	1	20	LP13 (2)			480			480				SPARE	1	20	6
7	1	30	LP40 (2)			540	540						SPARE	1	30	8
9	1	30	SPARE					0					SPARE	1	30	10
11	1	30	SPARE						0				SPARE	2	30	12
13	3	20	PHYSICS APC RACK (1)			1,000	1,000						-	-	-	14
15	-	-	-			1,000		1,000					SPARE	2	30	16
17	-	-	-			1,000			1,000				-	-	-	18
19	2	30	SPARE				0						SPARE	2	30	20
21	-	-	-					0					-	-	-	22
23	2	30	SPARE						0				SPARE	2	30	24
25	-	-	-				0						-	-	-	26
27	2	30	SPARE					0					SPARE	2	30	28
29	-	-	-						0				-	-	-	30
31	1		SPACE				0						SPACE	1		32
33	1		SPACE					0					SPACE	1		34
35	1		SPACE						0				SPACE	1		36
37	1		SPACE				0						SPACE	1		38
39	1		SPACE					0					SPACE	1		40
41	1		SPACE						0				SPACE	1		42
							1,540	1,000	1,480							

TOTAL CONNECTED LOAD: 4,020 VA 11 AMPS FEEDER: 3 #1, 2 #1 NEUTRAL,
CALCULATED FEEDER DEMAND, NEC 220: 5,025 VA 14 AMPS 1 #4 GND, 2" C

PANEL '3B'
CUTLER HAMMER, BOLT-ON
3 POLE 225 AMP MAIN BREAKER

POWER DISTRIBUTION UNIT 'PDU3', SIDE 'B'
OWNER FURNISHED, CONTRACTOR INSTALLED

10,000 A.I.C. FULLY RATED
120/208 VOLT, 3 PHASE, 4 WIRE
FLOOR STANDING

CIR NO.	BRKR P	BRKR AMPS	DESCRIPTION	NO. LTS	NO. REC	CIRCUIT LOAD	PHASE LOAD - VA A	PHASE LOAD - VA B	PHASE LOAD - VA C	CIRCUIT LOAD	NO. REC	NO. LTS	DESCRIPTION	BRKR P	BRKR AMPS	CIR NO.
1	1	20	SPARE				0						SPARE	1	20	2
3	1	20	SPARE					0					SPARE	1	20	4
5	1	20	SPARE						0				SPARE	1	20	6
7	1	30	SPARE				0						SPARE	2	30	8
9	1	30	SPARE					0					-	-	-	10
11	1	30	SPARE						0				SPARE	2	30	12
13	3	20	PHYSICS APC RACK (1)			1,000	1,000						-	-	-	14
15	-	-	-			1,000		1,000					SPARE	2	30	16
17	-	-	-			1,000			1,000				-	-	-	18
19	2	30	SPARE				0						SPARE	2	30	20
21	-	-	-					0					-	-	-	22
23	2	30	SPARE						0				SPARE	2	30	24
25	-	-	-				0						-	-	-	26
27	2	30	SPARE					0					SPARE	2	30	28
29	-	-	-						0				-	-	-	30
31	1		SPACE				0						SPACE	1		32
33	1		SPACE					0					SPACE	1		34
35	1		SPACE						0				SPACE	1		36
37	1		SPACE				0						SPACE	1		38
39	1		SPACE					0					SPACE	1		40
41	1		SPACE						0				SPACE	1		42
							1,000	1,000	1,000							

TOTAL CONNECTED LOAD: 3,000 VA 8 AMPS FEEDER: 3 #1, 2 #1 NEUTRAL,
CALCULATED FEEDER DEMAND, NEC 220: 3,750 VA 10 AMPS 1 #4 GND, 2" C

PDU PANEL NOTES:
(1) RECONNECT CIRCUIT FROM EXISTING PANEL 'A1'.
(2) RECONNECT CIRCUIT FROM EXISTING PANEL 'A2'.
(3) RECONNECT CIRCUIT FROM EXISTING PANEL 'A3'.
(4) RECONNECT CIRCUIT FROM EXISTING PANEL 'A4'.
(5) PROVIDE NEW RECEPTACLE AND CIRCUIT.
(6) RECEPTACLE NOT SHOWN ON PLAN. FIELD VERIFY LOCATION.
(7) CIRCUIT LOADS ARE ESTIMATED BASED ON SPOT MEASUREMENTS FROM JANUARY 6 2006 POWER SYSTEM ANAYLSIS.

NEW 'UPS1A' DISTRIBUTION PANEL
POWERWARE 9390 IDC

UPS1A INTEGRATED DISTRIBUTION CABINET
OWNER FURNISHED, CONTRACTOR INSTALLED

10,000 A.I.C. FULLY RATED
120/208 VOLT, 3 PHASE, 4 WIRE
FLOOR STANDING

CIR NO.	BRKR P	BRKR AMPS	DESCRIPTION	NO. LTS	NO. REC	CIRCUIT LOAD	PHASE LOAD - VA A	PHASE LOAD - VA B	PHASE LOAD - VA C	CIRCUIT LOAD	NO. REC	NO. LTS	DESCRIPTION	BRKR P	BRKR AMPS	CIR NO.
1	3	125	PDU1, PANEL '1A'			3,060	3,915			855			PDU2, PANEL '2A'	3	125	2
	-	-	-			3,735		3,735		0			-	-	-	
	-	-	-			2,335			2,815	480			-	-	-	
3	3	125	PDU3, PANEL '3A'			1,540	1,540						SPARE	3	125	4
	-	-	-			1,000		1,000					-	-	-	
	-	-	-			1,480			1,480				-	-	-	
5	3	250	SPACE				0						SPACE	3	250	6
	-	-	-					0					-	-	-	
	-	-	-						0				-	-	-	
							5,455	4,735	4,295							

TOTAL CONNECTED LOAD: 14,485 VA 40 AMPS FEEDER: FACTORY CONNECTED TO TRANSFORMER
CALCULATED FEEDER DEMAND, NEC 220: 18,106 VA 50 AMPS

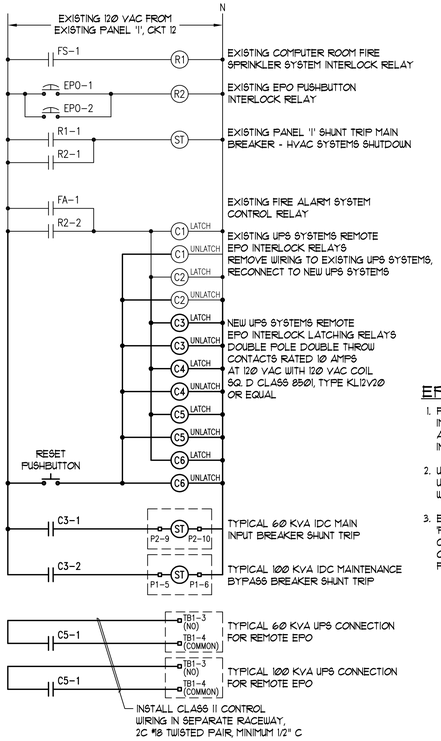
NEW 'UPS1B' DISTRIBUTION PANEL
POWERWARE 9390 IDC

UPS1B INTEGRATED DISTRIBUTION CABINET
OWNER FURNISHED, CONTRACTOR INSTALLED

10,000 A.I.C. FULLY RATED
120/208 VOLT, 3 PHASE, 4 WIRE
FLOOR STANDING

CIR NO.	BRKR P	BRKR AMPS	DESCRIPTION	NO. LTS	NO. REC	CIRCUIT LOAD	PHASE LOAD - VA A	PHASE LOAD - VA B	PHASE LOAD - VA C	CIRCUIT LOAD	NO. REC	NO. LTS	DESCRIPTION	BRKR P	BRKR AMPS	CIR NO.
1	3	125	PDU1, PANEL '1B'			3,060	3,915			855			PDU2, PANEL '2B'	3	125	2
	-	-	-			3,735		3,735		0			-	-	-	
	-	-	-			2,335			2,335	0			-	-	-	
3	3	125	PDU3, PANEL '3B'			1,000	1,000						SPARE	3	125	4
	-	-	-			1,000		1,000					-	-	-	
	-	-	-			1,000			1,000				-	-	-	
5	3	250	SPACE				0						SPACE	3	250	6
	-	-	-					0					-	-	-	
	-	-	-						0				-	-	-	
							4,915	4,735	3,335							

TOTAL CONNECTED LOAD: 12,985 VA 36 AMPS FEEDER: FACTORY CONNECTED TO TRANSFORMER
CALCULATED FEEDER DEMAND, NEC 220: 16,231 VA 45 AMPS



EPO NOTES:

1. FIELD VERIFY EXISTING EPO WIRING AND CONTROLS. IMMEDIATELY NOTIFY THE PROJECT ENGINEER OF ANY DISCREPANCIES WHICH WILL NOT ALLOW INSTALLATION OF NEW CONTROLS AS INDICATED.
2. USE MINIMUM #12 WIRE FOR ALL CONTROL WIRING UNLESS NOTED OTHERWISE. INSTALL ALL CONTROL WIRING IN APPROVED RACEWAYS.
3. EXISTING FIRE SPRINKLER SYSTEM RELAY CONTACT 'FS-1' AND EXISTING FIRE ALARM SYSTEM RELAY CONTACT 'FA-1' ARE PROGRAMMED TO OPERATE ONLY UPON ACTIVATION OF THE COMPUTER ROOMS FIRE SPRINKLER SYSTEM.

A1 EPO CONTROL WIRING DIAGRAM
SCHEMATIC

State of Utah
Department of Administrative Services
Division of Facilities Construction & Management
4110 State Office Building
Salt Lake City, Utah 84114
Phone: (801) 538 - 3018
Fax: (801) 538 - 3267
Internet: http://dfcm.state.ut.us

PROJECT ENGINEER:
THOMAS & KOLKMAN ENGINEERING CO. INC.
64 WEST 1700 SOUTH
SALT LAKE CITY, UTAH 84115
TELEPHONE: (801) 484-8161
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CONSULTANTS:

PROJECT:
WEBER STATE UNIVERSITY
3850 UNIVERSITY CIRCLE
OGDEN, UTAH 84408

TECHNICAL EDUCATION BUILDING

COMPUTER CENTER UPS UPGRADE

REVISIONS:

MARK	DATE	DESCRIPTION

ISSUE TYPE: CONSTRUCTION DOCUMENTS
ISSUE DATE: OCTOBER 19, 2007
DFCM PROJECT NO: 07316810
CAD PROJECT NO: n.a.
CAD DWG FILE: E-603.dwg
DRAWN BY: W.B.G.
CHECKED BY: R.G.K.
COPYRIGHT: STATE OF UTAH

SHEET TITLE:
SYMBOL LIST, EPO CONTROL DIAGRAM, AND PANEL SCHEDULES

SHEET NUMBER:
E-603

NEW PANEL 'EPA'
TYPE 'I-LINE'
3 POLE 400 AMP MAIN LUGS
14,000 A.I.C. FULLY RATED
277/480 VOLT, 3 PHASE, 4 WIRE
SURFACE MOUNTED

CIR	BRKR		DESCRIPTION	NO.	NO.	CIRCUIT	PHASE LOAD - VA			CIRCUIT	NO.	NO.	DESCRIPTION	BRKR		CIR
NO.	P	AMPS		LTS	REC	LOAD	PHASE A	PHASE B	PHASE C	LOAD	REC	LTS		P	AMPS	NO.
1	3	125	UPS1A BYPASS FEEDER			5,455	18,895			13,440			UPS2A BYPASS FEEDER	3	225	2
	-	-	. (NOTE 1)			4,735		18,655		13,920			. (NOTE 1)	-	-	
	-	-	-			4,295			18,915	14,620			-	-	-	
3	3	150	UPS1A RECTIFIER INPUT			2,500	7,500			5,000			UPS2A RECTIFIER INPUT	3	250	4
	-	-	. (NOTE 2)			2,500		7,500		5,000			. (NOTE 2)	-	-	
	-	-	-			2,500			7,500	5,000			-	-	-	
5	3	250	SPACE				0						SPACE	3	250	6
	-	-	-					0					-	-	-	
	-	-	-						0				-	-	-	
7	3	250	SPACE				0						SPACE	3	250	8
	-	-	-					0					-	-	-	
	-	-	-						0				-	-	-	
							26,395	26,155	26,415							

TOTAL CONNECTED LOAD: 78,965 VA 95 AMPS
CALCULATED FEEDER DEMAND, NEC 220: 93,081 VA 112 AMPS
FEEDER: 4 #500 KCM, 1 #2 GND, 3-1/2" C

NOTES:
1. LOAD ON UPS BYPASS FEEDER IS TOTAL CONNECTED LOAD OF COMPUTER EQUIPMENT, CALCULATED AS CONTINUOUS LOAD AT 125% DEMAND.
2. LOAD ON UPS RECTIFIER INPUT IS MAXIMUM UPS LOSSES FOR BATTERY CHARGING, ETC., CALCULATED AS NON-CONTINUOUS LOAD AT 100% DEMAND.

NEW PANEL 'EPB'
TYPE 'I-LINE'
3 POLE 400 AMP MAIN LUGS
14,000 A.I.C. FULLY RATED
277/480 VOLT, 3 PHASE, 4 WIRE
SURFACE MOUNTED

CIR	BRKR		DESCRIPTION	NO.	NO.	CIRCUIT	PHASE LOAD - VA			CIRCUIT	NO.	NO.	DESCRIPTION	BRKR		CIR
NO.	P	AMPS		LTS	REC	LOAD	PHASE A	PHASE B	PHASE C	LOAD	REC	LTS		P	AMPS	NO.
1	3	125	UPS1B BYPASS FEEDER			4,915	16,255			11,340			UPS2B BYPASS FEEDER	3	225	2
	-	-	. (NOTE 1)			4,735		17,575		12,840			. (NOTE 1)	-	-	
	-	-	-			3,335			14,675	11,340			-	-	-	
3	3	150	UPS1B RECTIFIER INPUT			2,500	7,500			5,000			UPS2B RECTIFIER INPUT	3	250	4
	-	-	. (NOTE 2)			2,500		7,500		5,000			. (NOTE 2)	-	-	
	-	-	-			2,500			7,500	5,000			-	-	-	
5	3	250	SPACE				0						SPACE	3	250	6
	-	-	-					0					-	-	-	
	-	-	-						0				-	-	-	
7	3	250	SPACE				0						SPACE	3	250	8
	-	-	-					0					-	-	-	
	-	-	-						0				-	-	-	
							23,755	25,075	22,175							

TOTAL CONNECTED LOAD: 71,005 VA 85 AMPS
CALCULATED FEEDER DEMAND, NEC 220: 83,131 VA 100 AMPS
FEEDER: EXIST. 4 #4/0, 1 #4 GND, 2-1/2" C (NOTE 3)

NOTES:
1. LOAD ON UPS BYPASS FEEDER IS TOTAL CONNECTED LOAD OF COMPUTER EQUIPMENT, CALCULATED AS CONTINUOUS LOAD AT 125% DEMAND.
2. LOAD ON UPS RECTIFIER INPUT IS MAXIMUM UPS LOSSES FOR BATTERY CHARGING, ETC., CALCULATED AS NON-CONTINUOUS LOAD AT 100% DEMAND.
3. CONNECT EXISTING FEEDER UNDER BASE BID. PROVIDE NEW 4 #500 KCM, 1 #2 GND, 3-1/2" C UNDER ADDITIVE ALTERNATE NO. 1.

EXISTING PANEL 'I'
SQUARE D TYPE 'HCM', I-LINE WITH TYPE 'FA' & 'KA' BREAKERS
3 POLE 600 AMP SHUNT TRIP MAIN BREAKER
3P-600A MAIN IN PANEL 'EDP1'
10,000 A.I.C. FULLY RATED
120/208 VOLT, 3 PHASE, 4 WIRE
SURFACE MOUNTED

CIR	BRKR		DESCRIPTION	NO.	NO.	CIRCUIT	PHASE LOAD - VA			CIRCUIT	NO.	NO.	DESCRIPTION	BRKR		CIR
NO.	P	AMPS		LTS	REC	LOAD	PHASE A	PHASE B	PHASE C	LOAD	REC	LTS		P	AMPS	NO.
1	3	20	TVSS			0	0						SPACE	3	70	2
	-	-	-			0		5,880		5,880			ROOFTOP UNIT RT-1	3	70	4
	-	-	-			0			5,880	5,880			-	-	-	
3	3	15	HUMIDIFIER 1			925	6,805			5,880			-	-	-	
	-	-	-			925		19,525		18,600			ROOFTOP UNIT RT-3	3	175	6
	-	-	-			925			19,525	18,600			-	-	-	
5	3	70	ROOFTOP UNIT RT-2			5,880	24,480			18,600			-	-	-	
	-	-	-			5,880		6,850		970		12	ROOM 213 LIGHTING	1	20	8
	-	-	-			5,880			6,840	960		16	ROOM 212 LIGHTING	2	20	10
7	3	175	ROOFTOP UNIT RT-4			18,600	19,265			665		19	ROOM 212 LIGHTING	-	-	
	-	-	-			18,600		18,600		0			SHUNT TRIP CONTROL	2	20	12
	-	-	-			18,600			18,600				SPARE	-	-	
9	3	50	SPARE				2,640			2,640			HUMIDIFIER 2	3	30	14
	-	-	-					2,640		2,640			-	-	-	
	-	-	-						2,640	2,640			-	-	-	
11	3	100	SPARE				0						SPARE	3	50	16
	-	-	-					0					-	-	-	
	-	-	-						0				-	-	-	
13	3	100	SPARE				13,440			13,440			SAC-1 (2)	3	150	18
	-	-	-					13,440		13,440			-	-	-	
	-	-	-						13,440	13,440			-	-	-	
15	3	150	PANEL 'II' (1)			12,000	25,440			13,440			SAC-2 (2)	3	150	20
	-	-	-			12,000		25,440		13,440			-	-	-	
	-	-	-			12,000			25,440	13,440			-	-	-	
							92,070	92,375	92,365							

TOTAL CONNECTED LOAD: 276,810 VA 768 AMPS
CALCULATED FEEDER DEMAND, NEC 220: 123,379 VA 342 AMPS
FEEDER: EXISTING 8 #350 KCM, 2 #1/0 GND, (2) 3" C

NOTES:
1. ESTIMATED LOAD FOR EXISTING PANEL 'II', CALCULATED AS NON-CONTINUOUS LOAD WITH 100% FEEDER DEMAND.
2. ROOFTOP UNITS RT-1 AND RT-3 MOTOR LOADS ARE INCLUDED IN FEEDER DEMAND AS PRIMARY COOLING LOADS FOR COMPUTER ROOMS 212 & 213. RT-2, RT-4, SAC-1, AND SAC-2 ARE NOT INCLUDED IN DEMAND CALCULATION AS BACK-UP COOLING SYSTEMS FOR COMPUTER ROOMS.
3. EXISTING PANEL 'I' SCHEDULE SHOWN FOR REFERENCE TO PANEL 'EDP1' AND GENERATOR LOADING ONLY.

EXISTING PANEL 'EDP1'
SQUARE D TYPE QED-S
3 POLE 1,600 AMP MAIN LUGS
MINIMUM 45,000 A.I.C. FULLY RATED
120/208 VOLT, 3 PHASE, 4 WIRE
SURFACE MOUNTED

CIR	BRKR		DESCRIPTION	NO.	NO.	CIRCUIT	PHASE LOAD - VA			CIRCUIT	NO.	NO.	DESCRIPTION	BRKR		CIR
NO.	P	AMPS		LTS	REC	LOAD	PHASE A	PHASE B	PHASE C	LOAD	REC	LTS		P	AMPS	NO.
1	3	800	NEW PANEL 'EPA'			26,395	26,395						SPACE - 54"	3	250	2
	-	-	VIA NEW XFMR 'TEPA'			26,155		26,155					(MAX 'KH' 250A FRAME)			
	-	-	. (NOTE 1)			26,415			26,415							
3	3	100	SPACE (4.5")				0									
	-	-	-					0								
	-	-	-						0							
5	3	800	NEW PANEL 'EPB'			23,755	23,755									
	-	-	VIA NEW XFMR 'TEPB'			25,075		25,075								
	-	-	. (NOTE 2)			22,175			22,175							
			CROSS BUSS (9")				0									
			-					0								
			-						0							
7	3	600	EXISTING PANEL 'I'			92,070	92,070									
	-	-	-			92,375		92,375								
	-	-	-			92,365			92,365							
9	3	60	EXISTING TVSS			0	0									
	-	-	-			0		0								
	-	-	-			0			0							
			INTEGRALLY MOUNTED TVSS				0									
			-					0								
			-						0							
							142,220	143,605	140,955							

TOTAL CONNECTED LOAD: 426,780 VA 1185 AMPS
CALCULATED FEEDER DEMAND, NEC 220: 299,591 VA 832 AMPS
FEEDER: EXISTING 16 #350 KCM, 4 #3/0 GND, (4) 3" C

NOTES:
1. FURNISH AND INSTALL NEW SQUARE D TYPE 'MH' CIRCUIT BREAKER IN EXISTING SPACE.
2. EXISTNG 3P-500A BREAKER TO REMAIN UNDER BASE BID. REPLACE WITH NEW 3P-800A TYPE 'MH' BREAKER UNDER ADDITIVE ALTERNATE NO. 1.

PANEL '4A'
CUTLER HAMMER, BOLT-ON
3 POLE 225 AMP MAIN BREAKER
POWER DISTRIBUTION UNIT 'PDU4', SIDE 'A'
OWNER FURNISHED, CONTRACTOR INSTALLED
10,000 A.I.C. FULLY RATED
120/208 VOLT, 3 PHASE, 4 WIRE
FLOOR STANDING

CIR	BRKR		DESCRIPTION	NO.	NO.	CIRCUIT	PHASE LOAD - VA			CIRCUIT	NO.	NO.	DESCRIPTION	BRKR		CIR
NO.	P	AMPS		LTS	REC	LOAD	PHASE A	PHASE B	PHASE C	LOAD	REC	LTS		P	AMPS	NO.
1	1	20	CISCO 6500 ROUTER (1)			360	720			360			SO WALL BOTTM #7,8 (2)(6)	1	20	2
3	1	20	CISCO 6500 ROUTER (1)			360		540		180			REC, ENTRY 209 (3)	1	20	4
5	1	20	SOUTH SERVER STRIPS (2)			1,200			1,380	180			REC, ENTRY 209 (3)	1	20	6
7	1	30	CISCO NETWORK RACK (2)			720	720						SPARE	1	30	8
9	1	30	SPARE					720		720			OUTLET C RUSSELL RACK (2)	1	30	10
11	2	30	BLADE POWER SUPPLY (1)		1	360			360				SPARE	1	30	12
13	-	-	(BOTTOM)			360	360						SPARE	1	30	14
15	2	30	BLADE PWR SUPPLY B (1)			540		540					SPARE	2	30	16
17	-	-	(BOTTOM)			540			540				-	-	-	18
19	2	30	SPARE				0						SPARE	2	30	20
21	-	-	-					0					-	-	-	22
23	2	30	SPARE						0				SPARE	2	30	24
25	-	-	-				0						-	-	-	26
27	2	30	SPARE					0					SPARE	2	30	28
29	-	-	-						0				-	-	-	30
31	1		SPACE				0						SPACE	1		32
33	1		SPACE					0					SPACE	1		34
35	1		SPACE						0				SPACE	1		36
37	1		SPACE				0						SPACE	1		38
39	1		SPACE					0					SPACE	1		40
41	1		SPACE						0				SPACE	1		42
							1,800	1,800	2,280							

TOTAL CONNECTED LOAD: 5,880 VA 16 AMPS
CALCULATED FEEDER DEMAND, NEC 220: 7,350 VA 20 AMPS
FEEDER: 3 #3/0, 2 #3/0 NEUTRAL, 1 #2 GND, 2-1/2" C

PANEL '4B'
CUTLER HAMMER, BOLT-ON
3 POLE 225 AMP MAIN BREAKER
POWER DISTRIBUTION UNIT 'PDU4', SIDE 'B'
OWNER FURNISHED, CONTRACTOR INSTALLED
10,000 A.I.C. FULLY RATED
120/208 VOLT, 3 PHASE, 4 WIRE
FLOOR STANDING

CIR	BRKR		DESCRIPTION	NO.	NO.	CIRCUIT	PHASE LOAD - VA			CIRCUIT	NO.	NO.	DESCRIPTION	BRKR		CIR
NO.	P	AMPS		LTS	REC	LOAD	PHASE A	PHASE B	PHASE C	LOAD	REC	LTS		P	AMPS	NO.
1	1	20	CISCO 6500 ROUTER (1)			360	360						SPARE	1	20	2
3	1	20	CISCO 6500 ROUTER (1)			360		360					SPARE	1	20	4
5	1	20	SOUTH SERVER STRIPS (2)			1,200			1,200				SPARE	1	20	6
7	1	30	CISCO NETWORK RACK (1)			720	720						SPARE	1	30	8
9	1	30	SPARE					720		720			OUTLET C RUSSELL RACK (2)	1	30	10
11	2	30	BLADE TOP SUPPLY B (2)		1	360			360				SPARE	1	30	12
13	-	-	-			360	360						SPARE	1	30	14
15	2	30	BLADE POWER SUPPLY (1)			360		360					SPARE	2	30	16
17	-	-	(TOP)			360			360				-	-	-	18
19	2	30	SPARE				0						SPARE	2	30	20
21	-	-	-					0					-	-	-	22
23	2	30	SPARE						0				SPARE	2	30	24
25	-	-	-				0						-	-	-	26
27	2	30	SPARE					0					SPARE	2	30	28
29	-	-	-						0				-	-	-	30
31	1		SPACE				0						SPACE	1		32
33	1		SPACE					0					SPACE	1		34
35	1		SPACE						0				SPACE	1		36
37	1		SPACE				0						SPACE	1		38
39	1		SPACE					0					SPACE	1		40
41	1		SPACE						0				SPACE	1		42
							1,440	1,440	1,920							

TOTAL CONNECTED LOAD: 4,800 VA 13 AMPS
CALCULATED FEEDER DEMAND, NEC 220: 6,000 VA 17 AMPS
FEEDER: 3 #3/0, 2 #3/0 NEUTRAL, 1 #2 GND, 2-1/2" C

PANEL '5A'
CUTLER HAMMER, BOLT-ON
3 POLE 225 AMP MAIN BREAKER
POWER DISTRIBUTION UNIT 'PDU5', SIDE 'A'
OWNER FURNISHED, CONTRACTOR INSTALLED
10,000 A.I.C. FULLY RATED
120/208 VOLT, 3 PHASE, 4 WIRE
FLOOR STANDING

CIR	BRKR		DESCRIPTION	NO.	NO.	CIRCUIT	PHASE LOAD - VA			CIRCUIT	NO.	NO.	DESCRIPTION	BRKR		CIR
NO.	P	AMPS		LTS	REC	LOAD	PHASE A	PHASE B	PHASE C	LOAD	REC	LTS		P	AMPS	NO.
1	1	20	SPARE				720			720			4 REGULAR 110 (2)(6)	1	20	2
3	1	20	SPARE					360		360			EAST PLUGMOLD (2)(6)	1	20	4
5	1	20	OUTLETS #A (2)(6)			1,080			1,660	580			BACKUP SRV & TAPES (2)(6)	1	20	6
7	1	30	OUTLETS #B (2)(6)			1,440	1,620			180			BACKUP EXEC RACK (2)(6)	1	30	8
9	1	30	NIMS (2)(6)			1,260		1,260					SPARE	1	30	10
11	1	30	NIMS (2)(6)			1,260			1,800	540			NOVELL IMAGING (3)	2	30	12
13	1	30	NIMS (2)(6)			1,260	1,800			540			-	-	-	14
15	2	30	SUN 8 (2)			1,080		2,280		1,200			9985 RIGHT BOTTOM (4)	2	30	16
17	-	-	-			1,080			2,280	1,200			-	-	-	18
19	2	30	SUN 7 (3)			540	1,740			1,200			9985 RIGHT TOP (4)	2	30	20
21	-	-	-			540		1,740		1,200			-	-	-	22
23	2	30	SUN 6 (3)			540			540				SPARE	2	30	24
25	-	-	-			540	540						-	-	-	26
27	2	30	COMPAQ			1,200		1,200					SPARE	2	30	28
29	-	-	-			1,200			1,200				-	-	-	30
31	1		SPACE				0						SPACE	1		32
33	1		SPACE					0					SPACE	1		34
35	1		SPACE						0				SPACE	1		36
37	1		SPACE				0						SPACE	1		38
39	1		SPACE					0					SPACE	1		40
41	1		SPACE						0				SPACE	1		42
							6,420	6,840	7,480							

TOTAL CONNECTED LOAD: 20,740 VA 58 AMPS
CALCULATED FEEDER DEMAND, NEC 220: 25,925 VA 72 AMPS
FEEDER: 3 #3/0, 2 #3/0 NEUTRAL, 1 #2 GND, 2-1/2" C

PANEL '5B'
CUTLER HAMMER, BOLT-ON
3 POLE 225 AMP MAIN BREAKER
POWER DISTRIBUTION UNIT 'PDU5', SIDE 'B'
OWNER FURNISHED, CONTRACTOR INSTALLED
10,000 A.I.C. FULLY RATED
120/208 VOLT, 3 PHASE, 4 WIRE
FLOOR STANDING

CIR	BRKR		DESCRIPTION	NO.	NO.	CIRCUIT	PHASE LOAD - VA			CIRCUIT	NO.	NO.	DESCRIPTION	BRKR		CIR
NO.	P	AMPS		LTS	REC	LOAD	PHASE A	PHASE B	PHASE C	LOAD	REC	LTS		P	AMPS	NO.
1	1	20	SPARE				0						SPARE	1	20	2
3	1	20	SPARE					0					SPARE	1	20	4
5	1	20	SPARE						0				SPARE	1	20	6
7	1	30	OUTLETS #A (2)(6)			2,400	2,400						SPARE	1	30	8
9	1	30	OUTLETS #B (2)(6)			2,400		2,400					SPARE	1	30	10
11	1	30	SPARE						540	540			NOVELL IMAGING (3)	2	30	12
13	1	30	SPARE				540			540			-	-	-	14
15	2	30	SUN 8 (2)			1,080		2,280		1,200			9985 LEFT BOTTOM (2)	2	30	16
17	-	-	-			1,080			2,280	1,200			-	-	-	18
19	2	30	SUN 7 (3)			540	1,740			1,200			9985 LEFT TOP (2)	2	30	20
21	-	-	-			540		1,740		1,200			-	-	-	22
23	2	30	SUN 6 (3)			540			540				SPARE	2	30	24
25	-	-	-			540	540						-	-	-	26
27	2	30	COMPAQ			1,200		1,200					SPARE	2	30	28
29	-	-	-			1,200			1,200				-	-	-	30
31	1		SPACE				0						SPACE	1		32
33	1		SPACE					0					SPACE	1		34
35	1		SPACE						0				SPACE	1		36
37	1		SPACE				0						SPACE	1		38
39	1		SPACE					0					SPACE	1		40
41	1		SPACE						0				SPACE	1		42
							5,220	7,620	4,560							

TOTAL CONNECTED LOAD: 17,400 VA 48 AMPS
CALCULATED FEEDER DEMAND, NEC 220: 21,750 VA 60 AMPS
FEEDER: 3 #3/0, 2 #3/0 NEUTRAL, 1 #2 GND, 2-1/2" C

PANEL '6A'
CUTLER HAMMER, BOLT-ON
3 POLE 225 AMP MAIN BREAKER
POWER DISTRIBUTION UNIT 'PDU6', SIDE 'A'
OWNER FURNISHED, CONTRACTOR INSTALLED
10,000 A.I.C. FULLY RATED
120/208 VOLT, 3 PHASE, 4 WIRE
FLOOR STANDING

CIR	BRKR		DESCRIPTION	NO.	NO.	CIRCUIT	PHASE LOAD - VA			CIRCUIT	NO.	NO.	DESCRIPTION	BRKR		CIR
NO.	P	AMPS		LTS	REC	LOAD	PHASE A	PHASE B	PHASE C	LOAD	REC	LTS		P	AMPS	NO.
1	1	20	SPARE				540			540			NORTH PLUGMOLD (2)(6)	1	20	2
3	1	20	SPARE					1,500		1,500			NORTH RACK 212 (1)(6)	1	20	4
5	1	20	SPARE						0				SPARE	1	20	6
7	1	30	HP CABINET PDU (2)(6)				0						SPARE	1	30	8
9	1	30	HP CABINET CAVE (2)(6)					0					SPARE	1	30	10
11	2	30	SUN STOREDGE (3)			720			1,800	1,080			SUN 2 (3)	2	30	12
13	-	-	-			720	1,800			1,080			-	-	-	14
15	2	30	SUN 4800 (3)			1,080		1,980		900			SUN 1 (3)	2	30	16
17	-	-	-			1,080			1,980	900			-	-	-	18
19	2	30	SUN 3 (3)			720	1,800			1,080			SUN 4 (3)	2	30	20
21	-	-	-			720		1,800		1,080			-	-	-	22
23	2	30	SPARE						1,080	1,080			SUN 5 (3)	2	30	24
25	-	-	-				1,080			1,080			-	-	-	26
27	2	30	SPARE					0					SPARE	2	30	28
29	-	-	-						0				-	-	-	30
31	1		SPACE				0						SPACE	1		32
33	1		SPACE					0					SPACE	1		34
35	1		SPACE						0				SPACE	1		36
37	1		SPACE				0						SPACE	1		38
39	1		SPACE					0					SPACE	1		40
41	1		SPACE						0				SPACE	1		42
							5,220	5,280	4,860							

TOTAL CONNECTED LOAD: 15,360 VA 43 AMPS
CALCULATED FEEDER DEMAND, NEC 220: 19,200 VA 53 AMPS
FEEDER: 3 #3/0, 2 #3/0 NEUTRAL, 1 #2 GND, 2-1/2" C

PANEL '6B'
CUTLER HAMMER, BOLT-ON
3 POLE 225 AMP MAIN BREAKER
POWER DISTRIBUTION UNIT 'PDU6', SIDE 'B'
OWNER FURNISHED, CONTRACTOR INSTALLED
10,000 A.I.C. FULLY RATED
120/208 VOLT, 3 PHASE, 4 WIRE
FLOOR STANDING

CIR	BRKR		DESCRIPTION	NO.	NO.	CIRCUIT	PHASE LOAD - VA			CIRCUIT	NO.	NO.	DESCRIPTION	BRKR		CIR
NO.	P	AMPS		LTS	REC	LOAD	PHASE A	PHASE B	PHASE C	LOAD	REC	LTS		P	AMPS	NO.
1	1	20	SPARE				0						SPARE	1	20	2
3	1	20	SPARE					0					SPARE	1	20	4
5	1	20	SPARE						0				SPARE	1	20	6
7	1	30	SPARE				0						SPARE	1	30	8
9	1	30	SPARE					0					SPARE	1	30	10
11	2	30	SUN STOREDGE (3)			720			1,800	1,080			SUN 2 (3)	2	30	12
13	-	-	-			720	1,800			1,080			-	-	-	14
15	2	30	SUN 4800 (3)			1,080		1,980		900			SUN 1 (3)	2	30	16
17	-	-	-			1,080			1,980	900			-	-	-	18
19	2	30	SUN 3 (3)			720	1,800			1,080			SUN 4 (3)	2	30	20
21	-	-	-			720		1,800		1,080			-	-	-	22
23	2	30	SPARE						1,080	1,080			SUN 5 (3)	2	30	24
25	-	-	-				1,080			1,080			-	-	-	26
27	2	30	SPARE					0					SPARE	2	30	28
29	-	-	-						0				-	-	-	30
31	1		SPACE				0						SPACE	1		32
33	1		SPACE					0					SPACE	1		34
35	1		SPACE						0				SPACE	1		36
37	1		SPACE				0						SPACE	1		38
39	1		SPACE					0					SPACE	1		40
41	1		SPACE						0				SPACE	1		42
							4,680	3,780	4,860							

TOTAL CONNECTED LOAD: 13,320 VA 37 AMPS
CALCULATED FEEDER DEMAND, NEC 220: 16,650 VA 46 AMPS
FEEDER: 3 #3/0, 2 #3/0 NEUTRAL, 1 #2 GND, 2-1/2" C

PDU PANEL NOTES:
(1) RECONNECT CIRCUIT FROM EXISTING PANEL 'A1'.
(2) RECONNECT CIRCUIT FROM EXISTING PANEL 'A2'.
(3) RECONNECT CIRCUIT FROM EXISTING PANEL 'A3'.
(4) RECONNECT CIRCUIT FROM EXISTING PANEL 'A4'.
(5) PROVIDE NEW RECEPTACLE AND CIRCUIT.
(6) RECEPTACLE NOT SHOWN ON PLAN. FIELD VERIFY LOCATION.
(7) CIRCUIT LOADS ARE ESTIMATED BASED ON SPOT MEASUREMENTS FROM JANUARY 6 2006 POWER SYSTEM ANAYLSIS.

NEW 'UPS2A' DISTRIBUTION PANEL
POWERWARE 9390 IDC
UPS2A INTEGRATED DISTRIBUTION CABINET
OWNER FURNISHED, CONTRACTOR INSTALLED
10,000 A.I.C. FULLY RATED
120/208 VOLT, 3 PHASE, 4 WIRE
FLOOR STANDING

CIR	BRKR		DESCRIPTION	NO.	NO.	CIRCUIT	PHASE LOAD - VA			CIRCUIT	NO.	NO.	DESCRIPTION	BRKR		CIR
NO.	P	AMPS		LTS	REC	LOAD	PHASE A	PHASE B	PHASE C	LOAD	REC	LTS		P	AMPS	NO.
1	3	200	PDU4, PANEL '4A'			1,800	8,220			6,420			PDU5, PANEL '5A'	3	200	2
	-	-	-			1,800		8,640		6,840			-	-	-	
	-	-	-			2,280			9,760	7,480			-	-	-	
3	3	200	PDU6, PANEL '6A'			5,220	5,220						SPARE	3	200	4
	-	-	-			5,280		5,280					-	-	-	
	-	-	-			4,860			4,860				-	-	-	
5	3	250	SPACE				0						SPACE	3	250	6
	-	-	-					0					-	-	-	
	-	-	-						0				-	-	-	
							13,440	13,920	14,620							

TOTAL CONNECTED LOAD: 41,980 VA 117 AMPS
CALCULATED FEEDER DEMAND, NEC 220: 52,475 VA 146 AMPS
FEEDER: FACTORY CONNECTED TO TRANSFORMER

NEW 'UPS2B' DISTRIBUTION PANEL
POWERWARE 9390 IDC
UPS2B INTEGRATED DISTRIBUTION CABINET
OWNER FURNISHED, CONTRACTOR INSTALLED
10,000 A.I.C. FULLY RATED
120/208 VOLT, 3 PHASE, 4 WIRE
FLOOR STANDING

CIR	BRKR		DESCRIPTION	NO.	NO.	CIRCUIT	PHASE LOAD - VA			CIRCUIT	NO.	NO.	DESCRIPTION	BRKR		CIR
NO.	P	AMPS		LTS	REC	LOAD	PHASE A	PHASE B	PHASE C	LOAD	REC	LTS		P	AMPS	NO.
1	3	200	PDU4, PANEL '4B'			1,440	6,660			5,220			PDU5, PANEL '5B'	3	200	2
	-	-	-			1,440		9,060		7,620			-	-	-	
	-	-	-			1,920			6,480	4,560			-	-	-	
3	3	200	PDU6, PANEL '6B'			4,680	4,680						SPARE	3	200	4
	-	-	-			3,780		3,780					-	-	-	
	-	-	-			4,860			4,860				-	-	-	
5	3	250	SPACE				0						SPACE	3	250	6
	-	-	-					0					-	-	-	
	-	-	-						0				-	-	-	
							11,340	12,840	11,340							

TOTAL CONNECTED LOAD: 35,520 VA 99 AMPS
CALCULATED FEEDER DEMAND, NEC 220: 44,400 VA 123 AMPS
FEEDER: FACTORY CONNECTED TO TRANSFORMER

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TECHNICAL EDUCATION BUILDING

COMPUTER CENTER UPS UPGRADE

REVISIONS:

MARK	DATE	DESCRIPTION

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